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ABSTRACT

This interdisciplinary scientific journal emphasizes the linkage between special education and rehabilitation services. Selected papers from the first two issues include: "The Impact of Current Issues in Teacher Education on the Preparation of Special Educators" (Patricia Edelen-Smith and others); "Training Teachers and Parents To Work Collaboratively in the Teaching and Training of Children with Disabilities" (Lourdes P. Klitzkie and Heidi Farra San Nicolas); "The Roles of a Social Worker in a Multi-Disciplinary Team in Working with the Mentally Handicapped" (Kam-Shing Yip); "The Evaluation of Intervention Programs in the Care System for Profoundly Mentally and Physically Handicapped Persons" (Ruud van Wijck); "Perspectives and Goals: Central Issues in Intervention" (Han Nakken); "Development and Evaluation of Individual Educational Care Programs for Profoundly Multiple Handicapped Persons" (Carla Vlaskamp); "Pathways to Adulthood for Young People with Special Educational Needs" (G. O. B. Thomson and others); "A Model for the Rehabilitation of the Developmental Retarded: The Small Group" (Leena Heikkila); "Evaluation of the Shift of Responsibility from County to Local Authority for the Education of Intellectually Handicapped in the City of Sodertalje, Sweden" (Lena Thorsson); "Physical Activity in the Mental Health Services: A Survey of the Existing Situation and Needs for Development" (Jorge Glaser and others); "Concerns for Best Practice in Communication Interventions: An Australian Study" (Michael Arthur and others); "Specific Learning Difficulties (Dyslexia): Psychological Research and Educational Practice" (Rea Reason); and "Assessment of Learning Potential in Children with Cerebral Palsy" (Adri Vermeer and Lucie F. Douwes Dekker). (Papers contain references.) (JDD)

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The Kunin-Lunenfeld Chair of Special Education
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Papers presented at the

9th World Congress

International Association for the Scientific Study of Mental Deficiency

25th Anniversary

THE KUNIN - LUNENFELD CHAIR OF SPECIAL EDUCATION
SCHOOL OF EDUCATION - UNIVERSITY OF HAIFA

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The ideas and opinions presented are those of the authors only and do not necessarily represent the philosophy of the editors.

Editorial

I am pleased to be associated with this journal and those who work in the area of special education and rehabilitation world wide. I have been in the field of special education for over 35 years and have seen fads come and go. In each case the educational practice was thought to be the answer to all the needs of those with disabilities.

As many of you know a number of individuals and school systems in the United States and Canada have advocated what has been termed full inclusion or inclusive education. What these terms mean is enrolment of all students with disabilities in regular education in their neighbourhood schop. The concept says it is a right that they possess and that they will make more social and academic progress in regular education. While legally and otherwise we have been moving in that direction for years, most educators were taken back by the proposal to educate the most severely disabled in regular classrooms.

The proposal for inclusion assumes that special education will become a support service and that regular education and special education will work together to facilitate the education of individual children. Such changes of course will result in the closing of the service delivery continuum and all vestiges of special classes, special schools, etc.

What disturbs me so much is that I know the impact which our literature has on others who visit our country and attend our conventions. I can imagine these individuals going back and trying to emulate what they have seen or heard.

Practices such as inclusion have been researched very little but the general concept appears to be supported in litigation and legislation. Such practices will probably be modified over time and some of the extreme positions will be abandoned. I, however, worry that not everyone will be aware of that. Let me give you an example. Some years ago when we were working with one of the developing third world countries we found they had studied our junior high schools and were prepared to change their schools to look just like ours. when we told them we had rejected that concept and had moved to what we call middle schools, you could see mass confusion develop. It was like "We have put all our apples into this and now you have pulled the rug out from under us".

I thus hope that in the future I do not travel to one of your countries and find a 1993 version of our inclusion in operation. Instead I would like to encourage all of us to compare notes on educational practices and programs and to only emulate those which appear to match our culture and society's needs and the needs of individuals with disabilities.

Glenn A. Vergason

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Issues in Special Education & Rehabilitation

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Despite Mental Handicap

Learning to cope with adult daily life

Edited by H.C. Gunzburg

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The Impact of Current Issues in Teacher Education on the Preparation of Special Educators

Patricia Edelen-Smith, Mary Anne Prater, Thomas W. Sileo

ABSTRACT: International issues in the area of teacher education affect special education personnel preparation and the delivery of services to students with disabilities. The authors examined these issues in light of restructuring efforts in special education training programs and their impact on school curricula, instruction and governance. Educational collaboration and team planning and development processes are addressed from the perspectives of teacher training and as vehicles that facilitate systems change in schools.

Major issues in the field of teacher education are echoed internationally. Leavitt (1991) identifies eight worldwide concerns, including:

- the recruitment of qualified individuals who often are drawn to more lucrative and prestigious professions;
- the content of teacher education which evolves from the universal disparity between universities' visions of knowledge for the sake of scholarship, and public schools' interest in knowledge for practical purposes;
- governance and quality control of teacher education programs both of which have strong political overtones and are based on the issue of centralized versus decentralized jurisdiction of teacher education programs;
- the meaning of research as it relates to universities' quests for theoretical and generalizable research in contrast to the public schools' call for action-oriented research that can be applied immediately to existing programs;
- the professionalism of teaching based on worldwide perceptions that it suffers from a chronic lack of prestige and professional status;
- activities of teacher educators, which are founded in the existing tensions between the higher education traditions of research and scholarship and the desires of training recipients who express widespread dissatisfaction with the lack of "real life" practice in their preparation for teaching and induction into the profession;
- the content and delivery of inservice education which suffers the negative impact of economic pressures thereby resulting in sporadic efforts and a lack of quality and coherence in professional development; and
- the development of indigenous teacher education programs which are primary concerns in countries that wish to diminish foreign influences on their core of teachers who receive degrees from universities outside their own countries and to develop their own policies, practices and institutions.

Concerns about teacher education programs in the United States are similar to those expressed worldwide and are shaped by the same political,

economic and social forces that affect all nations. The challenges associated with these issues result in widespread attempts at restructuring schools in which educators create new and better educational systems based on student outcomes and teacher accountability, self-determinism, socially validated curricula, and community involvement. School restructuring to meet the diverse needs of all learners has a profound impact on teacher education programs. The purpose of this paper is to discuss the issues in teacher education and their implications in terms of school restructuring and future special education teacher training. Particular attention is given to the description of a program that addresses the preparation of general and special educators and related school personnel in educational collaboration as the basis for restructuring school organization and governance.

Issues in Teacher Education

For over a decade, America has grappled with the "failure" of the current educational system; the call for better teachers, curricula and student products has been heard on various fronts. For example, **A Nation Prepared** (Carnegie Task Force, 1986), **Tommorrow's Teachers** (The Holmes Group, 1986) and an address by the President of the United States entitled, "America: 2000: An Educational Strategy" (April, 1991) signal the need for dramatic changes in America's classrooms, teacher training programs and the American educational system. Educational reform may be traced to the Sputnik era of the 1960's which resulted in new mathematics and science curricula, continuous progress education, open classrooms, language laboratories and programmed instruction. The 1970's ushered in behavioral objectives, mastery learning, school accountability, competency-based curricula and testing and a more effective integration of diverse populations into the schools and mainstream society. The 1980's emphasized teaching and learning excellence and curricula reform in mathematics and science; they witnessed statewide testing programs in thirty-five (35) states as attempts to raise educational standards. However, the traditional educational system failed to serve adequately an increasingly diverse school population (Will, 1986). Educational reforms did not yield the expected results in terms of better teachers, curricula and student products as anticipated by American society (Gibbony, 1991). According to the publication, Accelerating Academic Achievement - America's Challenge: A Summary of Findings From 20 Years of NAEP, the achievement levels of students in reading, mathematics, science, writing and civics remained static and similar to those of their parents twenty years ago (National Assessment of Educational Progress, 1990). Yet, the pressures of the external competitive environment increased dramatically and produced a widening gap between students' academic preparation and societal demands (Stone, 1991). Students' current educational attainment levels do not enable them to meet the economic, social, political and technological demands of society. In addition, students in the United States lag behind their educational counterparts, in other advanced countries, in the disciplines of mathematics and science (National Assessment of Educational Progress, 1990). The challenge to educators is to lessen the gap between students' competency levels and those required to function in an ever changing environment. Educational reform efforts of the past three decades, although designed to "fix" or improve existing educational systems, dealt only with the "what is " in education. The failure of these attempts has led to the current trend toward making fundamental systems changes by addressing "what might be" in education. These changes have broad impact not only on general and special education programs but on their concomitant teacher training practices.

The attempt to move beyond reform and to institute fundamental changes in education necessitates restructuring school organization and governance. Restructuring schools demands change in fundamental assumptions, practices and relationships, both within the organization and between the organization and the external environment, to improve students' learning (Conley, 1991). According to the America 2000: Sourcebook (1991), restructuring is a dynamic process that:

- requires a system of accountability which focuses on results and outcomes;

- encourages decentralization of authority by moving the decision-making process to the school site, thereby affording self-determination responsibilities to each school;
- provides an instructional program that is validated externally against the knowledge and skills that are required of future world citizens;
- creates an educational system that employs and supports highly competent teachers based on student outcomes; and
- encourages active and sustained community, business and parental involvement. Lieberman & Miller (1990), state that the restructuring process includes two discrete categories: principles and procedures.

Principles are values articulated at a level of generality but which allow for individual variation. They provide the framework for redesign by establishing individual school standards based on common beliefs. Procedures, on the other hand, provide the support for and boundaries of restructuring, the organizational means for restructuring (i.e., collaborative school-level committees and decision-making teams), and new incentives for thinking about schools (i.e., additional staff development and planning time). Principles are the "vision" of the school, whereas, procedures are the vehicle to attain that vision. Current restructuring efforts focus primarily on

- what is taught,
- how to teach, and
- school organization and changing patterns of service delivery to all students.

Curriculum and Instruction

The concerns regarding "what is taught" and "how to teach" evolve from changing perspectives of learning and teaching that cast doubt on the value of former practices. According to Nolan & Francis (1992), past curricular and teaching emphases reflected a "minimum competency test" mind set which emphasized the teaching of discrete, isolated skills and facts to the exclusion of reasoning, problem solving and other higher order thinking skills. The current trend toward more holistic teaching approaches emphasize knowledge generation and application rather than simple knowledge acquisition. Current "how-to-teach" approaches" include cooperative learning (Johnson & Johnson, 1989/1990), peer instructional methods (Lezotte, 1989), variables affecting time on task (Sieburth, 1989), and heterogeneous grouping strategies (Boyer, 1990). "What-to-teach" remains an area of debate regarding the organization of academic disciplines, definitions of student achievement and evaluation of that achievement against criteria by which to judge educated persons. The rethinking of curricular and instructional practices in the American education system attempts to promote quality and equality in education for all students (Lieberman & Miller, 1990).

Changes in curricular and instructional "best practice" in general education have far-reaching implications for special education. Politically, special education can no longer defend the overrepresentation of students from ethnically and culturally diverse backgrounds in special education classes (Fleishner & VanAcker, 1990; Ramirez, 1990). The adoption of more holistic and democratic curricula and methods in general education creates a greater schism between existing programs if special education does not accommodate changing student populations and curricular and instructional practices. This direct conflict is evident in current resource program service delivery models that remove students with mild disabilities from regular class settings for part(s) of the day to provide remedial skill-specific instruction that may or may not relate to the regular class curriculum or instructional methods (Wood, 1989). The movement toward inclusive education for students with disabilities dictates future educational procedures and necessitates joint efforts between general and special education teachers such as: team teaching, collaborative consultation, peer coaching and other evolving cooperative practices (Raynes, et al., 1991).

While the restructuring movement in American education has overall implications for special education, it is a mirror image of and reflects the issues that confront teacher education programs in general. Discussion of all these issues is beyond the scope of this paper, therefore, it is limited to specific areas that seem to have

greatest impact on special education personnel preparation.

One of the most obvious implications for teacher educators is the need to provide the content knowledge and application skills that allow prospective and practicing teachers to become active participants in the restructuring process and in changing curricular and pedagogical practices. This necessitates offering preservice and inservice training opportunities for learning and using skills that address the change process. For example, training in collaborative consultation (Cook & Friend, 1990; Friend & Cook, 1992; Idol, et al., 1987), effective communication (West & Cannon, 1988), team building (Chalfant & Van Dusen Pysh, 1989; Stodden, et al., 1987) and strategic planning (Kaufman & Herman, 1991) are appropriate for both general and special education teachers. Training in holistic curricular and pedagogical approaches are also appropriate, if not critical, to both general and special educators. The greater issue, however, is that the training must be delivered.

School Organization

Goodlad (1990) maintains that school restructuring requires nothing less than restructuring the way teachers are trained. He cites three chronic problems that plague teacher education programs:

- lack of support from universities and the professional community who value research and publications more highly than working with prospective teachers and the public schools;
- lack of cohesion and adequate linkage between the mastery of subject matter and pedagogical skills; and
- shortcomings in prospective teachers' field experiences that lack opportunities to translate principles into practice.

The result of these problems is a worldwide concern regarding teacher education's precarious position within both the university and school system (Leavitt, 1991).

One attempt to restructure teacher training and overcome the problems associated with traditional programs is the creation of "professional development schools" such as those supported by the Holmes Group, a consortium of approximately 100 major research universities which focuses on improving teacher preparation. Professional development schools present teaching in context and create teams of prospective, novice and veteran teachers, university faculty members and school administrators who work together on-site as collaborators, planners, researchers, mentors and fellow professionals (Goodlad, 1990). They remove universities from their primary roles of preservice training and supervision; instead, they encourage on-site team participatory problem solving, decision-making and a continuous study of teaching and learning (Lieberman & Miller, 1990). Since these efforts are in the development phase, the outcomes for teacher preparation programs are not clear. However, the need to improve teacher training is not disputed. It is apparent that future general and special education teacher training programs will be school based and that practical research will be of comparable value to basic research in guiding best practice.

The most common effect of restructuring schools is seen in school governance (i.e., the movement toward decreasing centralized administrative control and increasing school-community site-based decision-making and control of the school system). Site-based decision-making and efforts to decentralize authority are underway throughout the United States. For example, Project Ke au hou (A New Era), implemented in the state of Hawaii, "strives to decentralize authority, de-emphasize the regulatory function, and emphasize support services to schools, shared decision-making, and reduced bureaucracy" (Restructuring the Public School System for Our Children's Future, 1991, p. 5). The vehicle to accomplish this undertaking is School-Community Based Management (SCBM) which embraces the idea of self-determination and empowerment in the public schools to achieve quality education for all differentiated learners including those with disabilities and students who are at risk for school failure due to the effects of environmental variables such as socioeconomic deprivation, child abuse and neglect, alcohol and substance abuse and sexually transmitted diseases. Site-based decision-making: (a) relies on the collaborative efforts of school personnel, parents, students and the community to make

decisions and effect educational change; (b) asserts that better educational results are achieved when those responsible for the change efforts are stake holders in decision-making processes; and (c) recognizes the importance of a community of people to restructure schools in ways that lead to effective teaching and improved student performance (Restructuring the Public School System for Our Children's Future, 1991).

One area of immediate concern regarding the reorganization of existing school systems is that the 'restructuring literature' addresses change only as it relates to general education. The effects of organizational restructuring on special education is conspicuously absent from the literature. The dual system that separates general and special education (Wang, et al., 1986) in America's schools must be addressed if special education is to become a shared and integral part of a restructured educational system. An increasing number of school systems are practicing "inclusive" education (i.e., the inclusion of students with disabilities in general classroom settings and in all school activities), but, the keys to the success of these programs, according to Raynes, et al., (1991) are " . . . regular and special educators working side by side with heterogeneous groups of students, teachers sharing their specialities, and the recognition of each student's chronological age, personal preferences, and individual potential" (p.327). Special educators need to become involved in restructuring efforts at the organizational level. (See Davis, 1989, and Jenkins, et al., 1990, for a more detailed discussion of the Regular Education Initiative or REI movement in the United States). Educational collaboration is one way to attain a shared educational system that transcends general and special education. It relies on networking and team planning and development processes as foundations for sharing knowledge and information, joint decision-making, problem solving and conflict resolution and cooperative responsibility for program implementation.

Collaborative Consultation Training

The need for school personnel trained in collaborative consultation has witnessed increased interest and concern (Patriarca & Lamb, 1990; Pugach & Johnson, 1988). For example, school administrators and directors have identified consultation skills as a training priority for their teachers (McLaughlin, et al., 1988); and, instruction and practice in applying these skills have been identified as necessary components of special education preservice training programs (Idol, 1983).

Traditional consultation services in the schools were based on the triadic model of interaction among the student who is the target, the general educator who is the mediator of the proposed change in academic or social learning behavior, and the special educator who provides suggestions for the change (Tharp, 1975; Tharp & Wetzel, 1969). Concerns regarding an "expert" approach often applied to the teacher consultant model have been addressed in the literature (Huefner, 1988; Idol, et al., 1987; Pugach & Johnson, 1988). Of primary concern is the underlying premise that the special educator is in the best position or best prepared to solve the general educator's classroom problems. An attempt in overriding this premise is to make the consultative approach more collaborative, or a "reciprocal arrangement between individuals with diverse expertise to define problems and develop solutions mutually" (Pugach & Johnson, 1988, p. 13). Collaborative services may occur at several levels of programming, from referral to placement of a student in a less restrictive environment to ensure the attainment of appropriate educational programs; and, may involve a variety of school personnel and the student's parents. A comprehensive training program designed to prepare general and special educators and other school related personnel in collaborative consultation relies on both inservice (i.e., the development of model practicum sites) and preservice training formats.

The development of model practicum sites consists of workshops, follow-up training and support provided to school-wide personnel; it involves four phases:

- team building;
- conceptual program development;
- operational development and implementation; and
- evaluation, support and maintenance (Stodden, et al., 1987).

The purpose of team development is to create and stimulate collaboration among general and special educators, other support staff and building administrators all of whom have a joint responsibility for educating exceptional and at-risk students (West, et al., 1989). Team building involves a three-step process including:

- identifying team members,
- determining operational procedures regarding team functioning, and
- identifying roles and responsibilities of team members.

Although each team member represents specific perspectives, concerns and reference points related to a particular discipline, each member has the responsibility of understanding students' holistic needs and concerns and the roles of other service providers (Morsink, et al., 1991). Therefore, team members must commit themselves to the purposes of the team as a whole (Idol et al., (1987). In particular, the members should select a facilitator who maintains a posture whereby they can comfortably provide input into the development, implementation and evaluation of a collaborative service delivery model (West, et al., 1989).

Conceptual program development is a four-step process:

- defining the purposes and needs for collaboration,
- analyzing existing program structures, resources and personnel,
- establishing basic program considerations, and
- formulating a conceptual model for the school.

The outcome of this phase is the conceptualization of a program model based on the strengths of the existing system and compensation for possible obstacles and barriers to collaborative processes.

Operational development and implementation involves:

- identifying the settings for implementation of collaborative activities, and
- determining personnel roles and responsibilities for implementation.

The settings should represent school work environments in which there are ample pportunities to observe and evaluate student performance. Roles and responsibilities of personnel may vary from direct service (e.g., coordination, assessment, instruction, program planning and review) to indirect service (e.g., administrative support).

Evaluation, support and maintenance activities focus on assessing the ongoing status and operational effectiveness of implementation efforts. The overall impact on students, teachers and the educational system should be evaluated (Idol, et al., 1987). The general purposes of evaluation are to collect process (formative) and product (summative) data that serve as the basis for program change (Heron & Harris, 1987). The development and implementation of support and maintenance activities (e.g., professional development seminars, networking systems) help to ensure ongoing team efforts.

In addition to the development of model practicum sites, the training program consists of preservice graduate training through formal coursework, practicum experiences and instructional modules. The curriculum content for all three components focuses on five conceptual frameworks.

Applied behavior analysis. The philosophy behind applied behavior analysis is that individuals learn both acceptable and deviant behaviors through interactions with the environment. Changes in behavior result from the systematic manipulation of the environment (Kratochwill, 1987). A major training component, therefore, is the observation, analysis and modification of the interactions between students and their environments. Typically, students with disabilities do not transfer acquired skills to general education settings or maintain skills upon reintegration (Ito, 1980). Therefore, prospective teachers are instructed specifically in programming for maintenance and generalization.

Specific instructional assessment and curriculum. Appropriate curriculum for students with disabilities must include not only academic skills, but social and vocational skills (Edgar, 1988). If appropriate, they must learn to meet the curricular and behavior demands of inte-

grated settings through the use of learning strategies, self-management procedures, peer tutoring and cooperative group learning (Deshler & Shumaker, 1986; Prater, et al., 1992; Putman, et al., 1989). Prospective teachers gain experience in implementing a wide range of these strategies and curricular approaches within their practicum sites.

Interpersonal and communication skills. Demonstrating appropriate interpersonal and communication skills is often in the forefront of collaborative training programs (Idol, et al., 1987). Beyond typical interpersonal and communication skills, prospective teachers are provided with an awareness of the communication process as it exists currently in their practicum sites and, if necessary, participate in facilitating improved communication among team members.

Interdisciplinary interactions. Future school collaborators need an understanding of and specific skills to facilitate interdisciplinary interactions. Prospective teachers, as members of interdisciplinary teams and as collaborators, contribute to the needs of students by demonstrating a wide range of interdisciplinary understandings and skills. Effective team work requires recognition, appreciation and knowledge of other members' domains of expertise (Morsink, et al., 1991).

Strategies to facilitate collaboration. Initiating a collaboration model in any school requires recognition of barriers to change. For example, staff need skills in identifying school traditions, customs and practices which may impede change, as well as the strategies and tactics to implement change. Unlike many collaboration training programs, this program focuses on the development of strategies and tactics for change, in addition to the implementation of the collaborative model within specific school settings.

Summary

The ultimate goal of educational change is to make schools a better place for children. The restructuring movement in the United States represents an attempt to transform the "what is" in education by acting upon shared visions of "what might be" in education. An understanding of the issues that impact systems change in education and their implications in terms of school restructuring help special education teacher educators to plan for the future. The discussion about educational collaboration as an approach to special education personnel preparation is consistent with the need to restructure school organization and governance. Benefits of these training efforts include linking teacher education to school reform, establishing school and university partnerships, and developing highly trained school personnel and model practicum sites within existing public school settings. Educational collaboration may be applied across a wide range of school levels from preschool to high school programs. The ultimate outcome of the training is the assistance pro-

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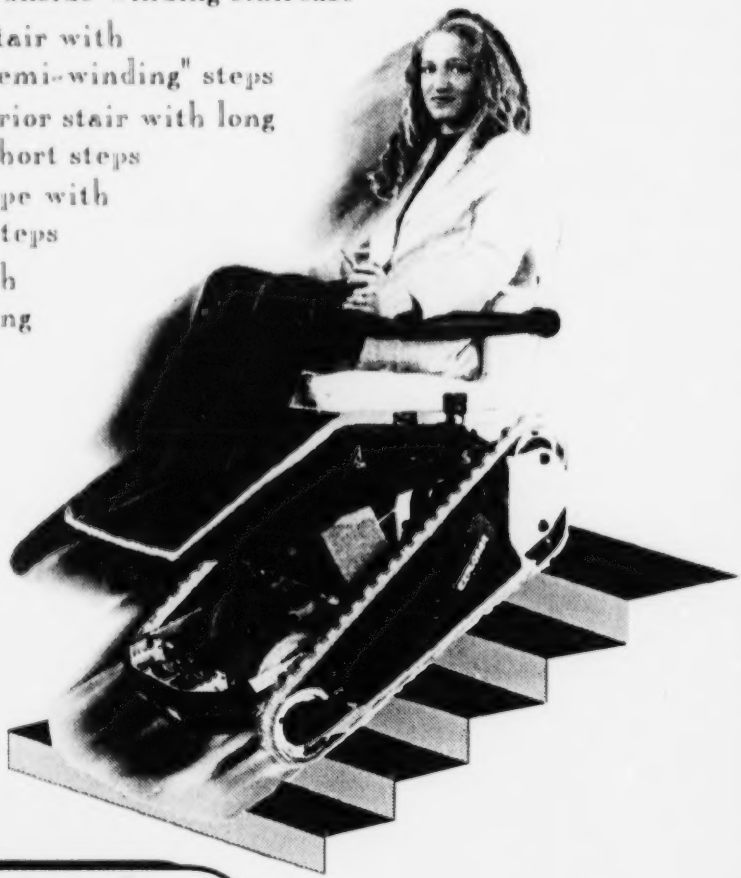

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Training Teachers and Parents to Work Collaboratively in the Teaching and Training of Children with Disabilities

Lourdes P. Klitzkie, Heidi Farra San Nicolas

ABSTRACT: A child learns to interact with and become a functioning member of the environment through the family. Family is the most basic institution of culture and is also the primary arena in which the child develops. As the needs of disabled children are greater than their non-disabled peers, parents of special needs children require extensive professional resources, support and education to effectively train and care for their children. Additionally, teachers of disabled children must understand family priorities and empathize with their needs to ensure consistency across school and home settings, and to promote collaboration and parent participation in the education of their children. As several U.S. federal laws have been implemented during the last two decades that specify the need for parent involvement in the education and training of children with disabilities, university and school district personnel have developed courses, parent support groups and a parent services office to better meet the needs of both teachers and parents. This paper will describe courses and programs developed by the University of Guam and the Guam Department of Education to address the training needs of teachers and parents in understanding the role of families in the education of children with disabilities.

Introduction

No one can refute that parents are the first teachers of their children. In fact, it has been stated that, "Parents are the prime factors in enabling healthy growth of their children's bodies and minds. Parents build the groundwork for the child's positive feelings about himself." (Frazier and Matthes, 1975, p. 31). The roles and responsibilities of parents are many and varied as are those of teachers who assume this role for a portion of each school day.

In the last two decades, educators and professionals have seen the importance of parental input and collaboration in the education and training of their children. Professionals have slowly come to realize the great potential and resources that parents have and can contribute to effective programming for their children. It has been stated that "Special and regular educators will be working with families whether they want to or not." (Kerns, 1992, p.54). The traditional notion of a "closed classroom" in which teachers work in isolation from the home environment is no longer a valid model. Much more progress may be made through collaborative efforts between parents and teachers.

Parent effectiveness may be even further enhanced through appropriate training and support. Additionally, specific training for teachers in how to collaborate, cooperate, and consult with parent of children with disabilities is crucial for the development of the child. Without the initiative of a great number of parents of children with disabilities, many organizations and much legislation would never have come to

fruition. Early efforts of parents in the United States led to the formation of such organizations as the National Association for Retarded Citizens in 1950, United Cerebral Palsy in 1948, and Learning Disabilities Association of America in 1968. Parents were critically involved in the landmark legislative act for disabled children in 1975, P.L. 94-142 the Education of All Handicapped Children Act (EHA). Parent organizations were also instrumental in the reauthorization of the EHA which has now become the Individuals with Disabilities Education Act (IDEA). Several U.S. federal laws have been implemented during the last two decades that specify the need for parent involvement in education and training of children with disabilities (Meyen,1990). In response to these national directives, university and school district personnel have developed pre-service, in-service and graduate courses, parent support groups, a parent services office, parent support training workshops and an annual parent conference to better meet the needs of both teachers and parents.

It is extremely beneficial when a parent assumes the role of case manager for the education and treatment of the child. There is no one that knows as much about a child than a caring parent. In the case of families who have a child with disabilities, using networks and services designed specifically for parents as well as learning to collaborate with teachers and other service providers can lead to the best possible educational outcomes for the child (Heward and Orlansky, 1990). Particularly with young handicapped children, parent linkages to the school are essential for continuity and generalizability of skills. The U.S. Territory of Guam follows all federal guidelines for the education and treatment of children with disabilities, and the University of Guam is accredited by the Western Association of Schools and Colleges. However, the location of the island of Guam and remoteness from the rest of the U.S. as well as the unique structure of the Department of Education which serves as both a State Educational Authority (SEA) and Local Educational Authority (LEA) have led to unique partnerships and collaborative relationships among professors at the university, teachers and professionals at the local school district, and parents who belong to parent support groups. Six major components comprise efforts for parent-teacher collaboration in the education of children with disabilities on Guam. Each of the six components will be discussed in the following sections. They include pre-service and graduate training of teachers, in-service training of teachers, parent support training workshops, a parent service office and coordinator, a parent-sibling support organization and an island-wide annual parent conference.

Pre-Service and Graduate Training of Teachers

Teachers who are preparing for careers as special educators and current teachers who wish to pursue graduate degrees in a special education resource consultant program are required to take at least one formal course that focuses on developing understanding of parents of children with special needs. The courses include coursework as well as practicum experiences that focus on collaboration with parents.

Coursework centers on developing skills in counseling, acquiring a working knowledge of all of the agencies and resources on Guam that serve individuals with disabilities, and mastering skills of advocacy, communication, and goal-setting. Students also learn systematic methods of problem-solving and are sensitized to many and varied cultural and ethnic reactions to having a child with a disability. Topics of study include understanding family dynamics, states and stages of parental reaction to having a disabled child, the parent-professional relationship, parent advocacy and support groups, helping skills, the helping relationship, cooperative-collaborative relationships, and counseling theories and helping approaches. Through the use of a course text , Working with Parents of Exceptional Children (Gargiulo, 1985) as well as supplemental readings from many other fine resources such as Conferencing Parents of Exceptional Children (Simpson, 1990), Teachers and Parents-A Guide to Interaction and Cooperation (Rutherford and Edgar, 1979) Families, Professionals, and Exceptionality, A Special Partnership (Turnbull and Turnbull, 1986), Working with Parents of Exceptional Children (Ehly et.al., 1985), Parents Speak Out (Turnbull and Turnbull, 1985)

Counseling Parents of Exceptional Children (Stewart, 1986), A Difference in the Family: Life with a Disabled Child (Featherstone, 1980), Families of Children with Special Needs: Early Intervention Techniques for the Practitioner (Mori, 1983), Two Way Talking with Parents of Special Children: A Process of Positive Communication (Chin et.al., 1978), and The Disabled and Their Parents (Buscaglia, 1983) students are exposed to philosophies of helping and techniques for the development of cooperative and collaborative relationships between parents and teachers.

The courses incorporate a variety of methods including background reading and research, interview, role play, discussion, debate, confrontations, problem solving and consensus sessions. A key component of the course is a practicum experience. Unlike traditional "school" practicum experiences that are conducted in classrooms, this 10-hour practicum includes intensive observation and participation with a family of a disabled child. Students observe a family in the natural home setting of the family. The student essentially "lives" with the family for 10 hours. The student participates in whatever the family normally does during that period of time which may include eating, talking, going shopping, going to a doctor's appointment.

This experience is designed to help teachers to better understand the needs and challenges that face parents and siblings of children with disabilities. Students are exposed to challenges such as physical exhaustion, problems with transportation, feeding difficulties, reactions from strangers, and family tensions. Through this practicum experience, teachers in training gain a healthy appreciation for the intensive involvement and needs of parents who have children with special needs. This insight leads to greater understanding and cooperation between the individuals most involved in the life of a handicapped child; the parent and the teacher. This type of training in effective communication and collaboration is essential as in the past, few educators felt competent in establishing and maintaining effective communication and collaboration with parents (Kerns, 1992). Teachers who graduate from either the undergraduate or graduate programs in special education at the University of Guam are afforded many opportunities to continue and update their training through many Department of Education sponsored in-service training workshops and courses. Additionally, regular education teachers of mainstreamed or fully-included children with disabilities may also enroll in continuing education and in-service courses designed to assist them in working with parents.

Department of Education In-Service Training of Teachers

Through federal Department of Education Special Education funds (Part B and H) and Teacher Training Scholarship Grant funds, Teacher Training Assistance Program (TTAP) funds, local funding sources, and Department of Defense (DOD) funding, the Guam Department of Education Division of Special Education provides an extensive program of in-service training for teachers who work with children who have disabilities. Much of this training is provided on-site at local schools and may include both graduate credit courses as well as continuing education units (CEU's). An In-Service Coordinator conducts periodic surveys of teacher training needs and schedules courses and workshops accordingly. In addition, program coordinators may also suggest series of lectures and seminars on specific topics of interest. Often, off-island guest speakers are brought in to share up-to-date techniques, practices and programs. The in-service training is provided to teachers at no cost as are graduate courses relating to education of children with disabilities. In 1989 an innovative in-service package was offered to all Guam teachers, school support personnel, and parents. This package became known as the "Six Saturday Workshop" series. In a period of six weeks, teachers attend courses for 7.5 hours each Saturday. Each Saturday consists of a keynote lecture followed by a series of "modules". By completing four 10-hour modules during the six weeks and attending the keynote lectures, teachers and parents who already possess an undergraduate degree may earn three graduate credits. Additionally, for those teachers who are only interested in a particular module or two, CEU credits are awarded for each 10-hour module. Parents, school aides, bus drivers and others may attend

the modules for credit or simply for personal development. A sampling of some of the types of modules offered through this innovative in-service workshop include: "Parents: The Forgotten Teachers", "Crisis Control Management and Intervention", "Improving Attitudes: Cooperative Learning", "Let's Play", "Workshop on Stress Management", "Student's Values and Behavior", and "Developmental Disabilities: Some Causes and Sequlae". A minimum of at least 10 different workshops are offered during each of the four 10-hour modules.

Parent Support Training Workshops

The Guam Department of Education, through the coordination of the Parent Services office, offers a number of activities and services to better prepare parents of disabled children and youth in caring, nurturing and teaching their children. Throughout the school year scheduled workshops are set up for and at the request of parents. Some of the topics for these workshops have included "Special Education Services at the Department of Education", "Parents Rights and Responsibilities", "Community Resources", "Parents Involvement in the Schools", "Assertive Discipline", "Crisis Control Management", "Effective Communication", Psychological Assessment", "Legislative Process", and "School Survival Skills". Other topics of interest and need for parents are also covered as per parent or teacher request. These workshops provide parents with the necessary skills and much needed critical information required in the treatment and education of their disabled children. The workshops, conducted by experts in the area, also afford an opportunity for parents to talk with other parents who have similar needs. The workshops also promote positive collaboration and communication between professionals and parents as both are invited to attend. When there is a positive harmonious relationship between the home and the school, positive results and improvement occur (Turnbull and Turnbull, 1990).

Parent Service Office and Coordinator

While the Department of Education always actively worked to assist parents of special needs children, in 1987 an official "Parent Services" Office was created specifically to provide assistance to parents who have children who have been referred to or who are receiving services from the Division of Special Education. Funded by the Department of Education, a major goal of the office is to encourage collaboration and consultation among teachers and parents. The office provides advocacy and support for parents before, during and after a child is referred to special education, and provides social work services for students receiving special education when problems relating to their disabilities impact on the success of their educational program. These social work services include home intervention, referrals to other agencies, parent training and individual counseling. In addition to counseling and social work services, the Parent Service Office maintains an up-to-date collection of information, brochures and materials from on-island resources for the disabled. A listing of national and international agencies is also maintained. A collection of parent resource tapes, training materials, parenting resource kits and VHS training tapes are also available in the Parent Services Office. The Parent Services Coordinator maintains a close working relationship with the Child Find Office and is available to answer any questions that parents or teachers may have concerning legal procedures, and rights and responsibilities. The Coordinator has experience and training in Special Education, Counseling and Social Work and is an invaluable resource of information and understanding. The Parent Services Office also provides funding for the Annual Parent Conference co-sponsored by the Department of Education and the Parents and Agencies Networking (PAN) parent support organization. Finally, financial and personnel support from the Parent Services Office led to the development of an island-wide parent support organization.

Parent Support Organization

In 1987 a group of parents, siblings, educators and other professionals concerned with the needs of disabled children and adults formed an organization titled "Parents and Agencies Networking" (PAN). The goals of this organization are:

1) to provide a forum in which parent organizations from the Northern, Central and Southern Villages of Guam can meet together for mutual support among parents of special children;

2) to provide parental input to agencies/programs that provide planning services for special children and adults;

3) to promote and provide assistance for strong parental leadership as the ultimate case manager and advocate for their child; and

4) to support, appeal and petition constituted authorities on any matter relative to the health, education, welfare and interest of special children and adults.

The monthly meetings for PAN members provide a forum for parents, siblings and professionals to exchange ideas and concerns. The group also sponsors occasional activities and events for teenagers and adults with disabilities. These have included dances, outings and other opportunities for socialization. A focus of PAN is to promote assistance and advocacy for the disabled, and to encourage parents to voice concerns and to share ideas and concerns. PAN serves as a major lobbying group for children and adult with disabilities, and enjoys a close working relationship with the Governor's office, the Guam Legislature and the Department of Education, Division of Special Education. The Annual Parent Conference is a major event co-sponsored by PAN and the Department of Education.

Annual Parent Conference

In 1986, the Department of Education, Division of Special Education with the support of an interagency staff development organization (Special Education Staff Development Advisory Council) and several special education service providers sponsored a major, island-wide Parent Conference designed for parents of children with disabilities. This conference was designed to bring parents, educators and other professionals together so that positive communication and relationships could be established between the home and the school. From contacts and ideas shared at this conference grew the Parent Services Office and the Parent and Agencies Networking (PAN) organization. The Annual Parent Conference is now co-sponsored by PAN, and the Parent Services Office of the Department of Education. The conference is attended by parents, siblings, teachers, other service providers and university students in training, and helps to unify all personnel and family involved in the life of the child. During the conference, recent accomplishments and achievements are hallmarked and parents and professionals are given opportunities to exchange ideas, collaborate on new projects, and listen to one another. Speakers at the Annual Parent Conference include parents, teachers, other professionals and nationally and internationally known guests including those from parent support groups from other states and countries. The most recent Parent Conference featured a speaker who is the parent of a disabled child as well as the executive director of center for the disabled. Parents and professionals alike were able to benefit from her expertise and personal experiences.

Summary

Parents of disabled children require extensive professional resources, support and education to effectively care for their children. Teachers must understand family priorities and empathize with their needs to ensure consistency across school and home settings, and to promote collaboration and parent participation in the education of children with disabilities. Pre-service, in-service and parent education courses in addition to parent conferences, a parent service office and cooperation with Parents and Agencies Networking; a parent and sibling support organization for families of children with disabilities have led to an effective collaborative relationship between parents and educators on Guam.

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The Roles of a Social Worker in a Multi-disciplinary Team in working with the Mentally Handicapped

Kam-Shing Yip

ABSTRACT: In this paper, the writer will try to describe the strengths and weaknesses in multi-disciplinary team work within the Hong Kong context. Particular attention will focus on the roles of social workers in working within a multi-disciplinary team in serving the mentally handicapped. Finally, the writer will suggest some ways to facilitate the multi-disciplinary team work and increase the contribution of social workers in serving the mentally handicapped within a Hong Kong context.

Introduction

It is estimated that there are about one hundred and thirteen thousand mentally handicapped persons in Hong Kong. Among them about four thousand are severely handicapped with IQ range below 25; twenty three thousand are moderately handicapped with IQ between 25-49; and eighty six thousand are mildly handicapped with IQ between 50-69 (Hong Kong Government, 1991: 107). In facing such a large population of mentally handicapped, good professional services are crucial and vital. Although the need of a multi-disciplinary team is explicit in serving the mentally handicapped (Thomas et al., 1981; Bicknell and Hollins, et 1985; Coles and Blunden, 1981; Felce, Mansel and Kushlick, 1980; Sneed and Bible, 1977), the differences in values, training backgrounds, orientation and intervention strategies among various professionals can never be undermined. Very often, such differences, if not being handled carefully may create more harm than good in serving the mentally handicapped.

The Various Roles of a Social Worker

Whittaker (1986) has identified the following professional roles of a social worker in rehabilitation settings. Treatment agent Helping client to cope with a bio-psycho-social problem through direct, face toe face, therapeutic intervention. Teacher and counsellor. Proving advice and information, teaching a specific set of skills or behaviours or helping a client prepare for a specific social role. Broker of service/resources. Brokering needed services and resources on behalf of the client, Helping the client to negotiate the often complicated regulation of the service bureaucracy and championing the basic civil right or the rights to needed services. Network/system consultant:

Providing direct consultation, liaisoning with various systems in the community and establishing various supportive networks for the clients. (Whittaker, 1986: 40-45).

In multi-disciplinary team work, even with a well trained and competent professional social worker, the practices of such roles may be hindered by differences in orientation, training, background and intervention approaches among professionals from various disciplines. What below is a further discussion about such differences.

Roles of a Social Worker Within a Multi-disciplinary Team

As other countries in the world, in Hong Kong, there were four major types of professionals in multi-disciplinary work with the mentally handicapped, namely are: professionals from medicine discipline, professionals from psychology discipline, professionals from social work discipline and professionals from education discipline. These four major types of professionals are in fact, different in role expectation, identity and cluster.

Differences in Role Expectation

It is crystal clear that the above five major roles in social worker in working with the mentally handicapped are founded on a developmental and humanistic belief that clients' potentials and capabilities can be developed to their fullest extent. Such ideologies and expectations may not be shared by professionals in other disciplines. For example, social workers and psychologists tend to expect the mentally handicapped as clients, while the medical professionals tend to expect the mentally handicapped as patients. The educational professionals tends to expect the mentally handicapped as students. Professional social workers expect to work with rather than work for the mentally handicapped in the process of rehabilitation. Though, they are mentally handicapped, professional social work ideologies tend to believe that they still have capabilities. If being properly developed, they can still make decision and certain degree of self determination. In performing the above mentioned five roles, a social worker tend to enhance clients' and their relatives' participation. Such expectation, may be labelled by professionals from other disciplines as over-ambitious and unrealistic in the process of intervention. Also, some professional roles, especially being an advocate, may not be accepted by some of the more conservative medical or educational professionals, thinking that social workers are making troubles and pushing the mentally handicapped and their relatives to challenge the system and their professional competence.

Differences in Role Identity

The multi-disciplinary team, professionals tend to identify themselves more with their own disciplines than with the whole team or the agency they are working. Coupled with various staff dynamics and insufficient communication among professionals from various disciplines, such confined identity may create a lot of "inner circles" among staff which further intensify conflicts and mis-communications in the agency. Furthermore, different proportions of different types of professional exists in different types of settings in working with the mentally handicapped. For example, in one special school in Hong Kong, there are only one or two social workers facing about thirty or forty teachers. They may feel being suffocated or dominated by the educational professionals. Similarly, in residential setting, as the unit in charge, and the agency director are trained social workers, the educational and medical professional may feel being controlled or dominated by the social work professionals.

Differences in Role Cluster

Different professionals in a multi-disciplinary team may have different orientation in defining their own role clusters. Medical professionals may think that their responsibilities should fulfill the medical needs of the mentally handicapped. Educational professionals may think that their jobs should cater to the educational and training needs of the mentally handicapped. In the same way, social workers will strongly commit to those interventions and tasks which can cater for the psychosocial needs of the mentally handicapped. However, in real practice, such needs may not be easily distinguished from one another. There are a lot of grey areas in the responsibilities among various professionals. For example, a young and aggressive social worker may be easily misinterpreted by other professionals as intruding on their professional territory. Also, if the social worker is over-responsible to the treatment agent, the medical professionals may think that s/he is doing something beyond his/her training and competent. In the same way, if the social workers are over-enthusiastic to the role as a teacher or trainer, the educational professionals may be skeptical about his/her competency in doing so. In addition, professionals from other disciplines may have different types of interpretations in the abovementioned roles of social workers. Medical profes-

sionals may think that they are the only competent ones to take up the roles as a treatment agent, a social worker should only assist them in treating their "patients." The educational professional may think that they are the only competent ones to be a trainer. Some medical and educational professionals may think that they can also perform the role as a counsellor, if they have time and are willing to "talk" with the mentally handicapped. They can also perform the role as a social network builder if they like to visit the families and the neighbors of the mentally handicapped. They can perform the role as a broker if they have time to contact various resources. For some narrow-minded medical and educational professionals, social workers should perform such roles as counsellors, therapists, network builders only because they are the ones in the team without clear responsibilities and tasks or because they are more outgoing in personalities.

Strengths and Weaknesses of Such Differences

The differences in role cluster, role identity and role expectation, among professionals from various disciplines may be both constructive and destructive to the roles of a social worker. It all depends on the morale in the multi-disciplinary team. If the team is a cohesive and cooperative one with young, enthusiastic and open minded professionals from various disciplines. The roles of a social worker is, indeed, very much enriched by mutual stimulation and mutual support among various professionals. In performing the role as a treatment agent for the mentally handicapped, s/he is happy to consult the medical practitioner about the medical condition of the client. S/he will find very stimulating the sharing the treatment plan with the occupational therapist and physiotherapist. The psycho-social treatment plan performed by the social worker can work closely with the medical treatment performed by the medical professionals. In performing the role as a trainer, s/he can cooperate smoothly with other professionals in designing a realistic training programme in improving the social, vocational, self care, psycho-motor skills of the mentally handicapped. Furthermore, in actualizing the role as an advocate, the social worker will find that some of the open-minded medical and educational professionals still have a very strong sense of awareness about the individual welfare and rights of the mentally handicapped. In performing the role as a network and system consultant, the social work certainly finds that some of the enthusiastic educational professionals may even use their own leisure to play some home visits to the clients. In acting as a broker of service for the mentally handicapped, the social worker will appreciate the suggestions and comments of various kinds of medical, educational and psychological services made by other professionals from other disciplines within the same team.

Nevertheless, if the team is not cooperative and cohesive, the above differences will further catalyze for conflicts and mis-communication among professionals. A social worker easily gets a feeling of loneliness and being neglected in the multi-disciplinary team. For instance, Mr. W. was a school social worker who had been working in a special school for the mentally handicapped for more than ten years. Within these ten years of service, he said that he worked within the shadow of his autocratic headmaster and discipline master in the school. Everything he worked for the clients should be permitted by them whom had not any knowledge about social work intervention. Though he had a very good planning in working for the families of the mentally handicapped, they thought that it was not important for the students in the special school. As all the teachers in this school only cared about discipline and order, he was only "used" by the teachers as on call workers to handle misbehaved students in the class. Heterosexual interaction was strangely forbidden in this school, and the headmaster even threatened the parents of the mentally handicapped to undergo sterilization for their retarded children so as to avoid further trouble. As the social worker shared different views of sterilization in terms of clients' rights and self determination, he was warned by the authority to keep his mouth shut. Mrs. A. was a social worker in a large sheltered workshop for the mentally handicapped, she said that multi-disciplinary work in her unit was noting but sitting together to avoid taking responsibilities. Educational professio-nals were allied to-

gether to protest against the social work and the medical professionals. They thought the social work and medical professionals had shifted too much responsibilities for them to shoulder. The above case illustrations strongly prove that as a result of such conflicts and dynamics, staff burnout and staff turnover are common in social welfare agencies in working with the mentally handicapped (Hegarty, 1987: 93; Kock, Fele, Saxby and Thomas, 1987: 97). In the next section, the writer will suggest some ways to improve the multi-disciplinary team work so that the roles of a social worker can be better performed with the support from other professionals from other disciplines.

Better Team Work, Better Contribution by Social Workers

For better multi-disciplinary team work, it is very important that the agency has a clear mission and orientation in serving the mentally handicapped. Without that kind of mission and vision, service for the mentally handicapped may be used by the social welfare agency as a means to expand its territory and to absorb more financial resources. Instead of advocating the rights of the mentally handicapped, administrators in that kind of agency seem to be conservative and bureaucratic, red tape and bureaucracy suffocate creativity and flexibility in multi-disciplinary team work for the mentally handicapped. In addition to clear mission, reasonable workload is the most important ingredient for good multi-disciplinary team work. In Hong Kong, a social worker has to be responsible for more than fifty mentally handicapped clients and their families. medical professionals and educational professionals are also suppressed by insurmountable workload in serving the mentally handicapped. Professional attention to individual mentally handicapped is slim and insufficient. Severe workload simply eats up the emission and commitment of the professionals in serving the mentally handicapped. No doubt, clear mission of the agency and reasonable workload are the pre-requisites, the following measures can be implemented to improve the contribution of the social worker in multi-disciplinary work in serving the mentally handicapped.

Active Multi-disciplinary Communication

Instead of being passive, the social worker in a multi-disciplinary team should initiate communication with professionals from other disciplines in the same team. Both formal and informal communication should invite other professionals for lunch and other informal social gatherings. That sort of informal communication facilitates the feeling sharing of the various professional within the same team and let the team members know one another personally. Apart from listening carefully about the thinking of other professionals, the social worker should also share his/her own thinking and feeling in intervention with the mentally handicapped. Such type of non-threatening informal communication greatly improves the mutual support and mutual understanding among various professionals within the same team. For formal communication, with the support from various kinds of psycho-social theories and social work intervention models, the social worker should present his/her views and roles competently to other professionals in formal case conference and staff meeting. Formal workshops organized by various professionals in dealing with issues and problems in serving the mentally handicapped should be organized so that professionals can share the knowledge and concepts from their own disciplines with other professionals. Coupled with the smooth and spontaneous informal communication, the expectations, cluster and identity of various roles of a social worker can gradually be understood and accepted by professionals from other disciplines.

Staff Development and Training

Spontaneous staff development and training are crucial in maintaining the morale and spirit of all professionals in a multi-disciplinary team in serving the multi-disciplinary (Sperlinger, 1989; Crawford, 1990; Repp, 1987). Sperlinger (1989) suggested the following six stages for training:

- Intensive training for staff. Setting goals for the staff and the service.
- Supporting and monitoring the services and policies in action.
- Evaluating the service bring provided.

- Feeding back the results of the evaluation and providing "top up" training and new goal for staff as a result of the evaluation.
- Supporting and monitoring the service and (revised) policies in action.
- Providing further "top up" training for staff, leading to setting of new goals. (Sperlinger, 1989: 8).

Sperlinger's model suggested a spontaneous training process for professionals so that they can constantly and gradually brush up themselves and setting new targets for further development. In performing his/her roles, a social worker should undergo such process to adjust his role performance with the changing needs of the clients and the dynamic changes in political, economic and social conditions in the society. Also, in undergoing such training with professionals from other disciplines, professionals can mutually stimulate one another in trying creative pioneering project or innovative intervention approach for the mentally handicapped.

Furthermore, together with other professionals, social workers in working with mentally handicapped should equip themselves with specialized knowledge in working with special needs and special client groups. Suggested specialized areas may include knowledge and skills in working with the mentally handicapped with other forms of disabilities such as: autism, cerebral palsy, blind, deaf, mental illness or other forms of physical disabilities. Social workers should also absorb knowledge from the medical, educational and psychological disciplines so as to widen their perspectives and interventions models and better perform their roles in the multi-disciplinary teams.

Democratic Leadership and Joint Decision Making

Mutual respect among various professionals is the key of success of smooth cooperation in multi-disciplinary team work. It can be developed by democratic leadership and joint decision making in the team. If the social worker is the leader of the team, s/he should pay due respect to the medical andeducational professional. S/he should not downgrade the knowledge and the contribution of any professional in any discipline in serving the mentally handicapped. Case conference, staff workshop and staff meetings and discussions are good channels to facilitate joint decision making in intervention and service delivery. Even if the social work professional is not the leader of the team, s/he should respect the contribution of professionals from other disciplines. On the one hand, s/he should competently present his or her views in intervention and service. On the other hand, s/he should consult and consider the opinions from various professionals within the same team, so that his or her roles can be cooperated smoothly with the other roles performed by other professionals.

Client Participation in Service Planning and Delivery

To achieve real normalization and integration in serving the mentally handicapped, client participation in service planning and delivery is very important. By means of the participation of the clients and their relatives, their real needs can be reflected in the services. Also, such kind of participation really develops their potentials and capabilities to the fullest extent. To facilitate that kind of participation,the social worker should guide other professionals to appreciate the strengths of the mentally handicapped and their relatives. S/he gradually involved the clients and their relatives as volunteers in various programmes. Then, with the help from other professionals, social clubs and self help groups can be formed by the clients and their relatives. Gradually, such groups can be transformed to pressure group to empower the rights and participation of the clients and their relatives in service planning and delivery. If the social worker can involve all kinds of professionals in the process for forming such groups, they can have a gradual process in learning about actual potentials and possible contribution of the clients and their relatives in the service planning and delivery. More conservative professionals tend to open their mind and have real touch of the potentials of the clients in that kind of process.

Linkage with the Community

As social worker is the only professional who have a close touch with the community, s/he should guide other professionals in the team to work with the community in rehabilitating the

mentally handicapped. S/he should encourage the educational, medical, and psychological professionals to implement various types of training within the context of actual community. For instance, some social skills training session should be conducted in the actual settings in the community such as: supermarket, restaurant or cinema. Joint programmes should be organized with local organizations to facilitate community acceptance with the mentally handicapped. Local church members, neighbours should be encouraged to serve as volunteers in serving the mentally handicapped. Such kinds of contact with the local community facilitate professionals from various disciplines within the same team to have a wider perspective in interpreting the rehabilitation process of the clients. It also helps them to understand and appreciate the various roles as a social worker in helping the clients to integrate back into the normal community.

Conclusion

As a conclusion, this paper attempts to examine the roles of a social worker in a multi-disciplinary team in serving the mentally handicapped within Hong Kong context. Certainly, social work professionals should have its unique contribution in serving the mentally handicapped. Though such kinds of contribution may be hindered by the differences in role expectation, identity and cluster among various professionals, by means of constant active communication, staff training, democratic leadership, client participation and linkage with the community, the roles of a social workers can be gradually accepted and appreciated by other professionals in the team. If the social welfare agency has a clear mission, and if the team morale is good, multi-disciplinary team work is still the most effective way in serving the mentally handicapped.

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The Evaluation of Intervention Programs in the Care System for Profoundly Mentally and Physically Handicapped Persons

Ruud van Wijck

ABSTRACT: In institutionalised care programs, professionals experience many problems in educating the profoundly mentally and physically handicapped. Problems exist at the level of the profoundly mentally and physically handicapped, at the level of the professional worker in relation to the handicapped and at the level of the management team. The evaluation of an intervention program, based upon an educational analysis and directed at the care system, was carried out several times in institutions for the profoundly mentally and physically handicapped. Program evaluation is considered to be useful as a theoretical and a procedural framework for the investigation of the aims of an intervention. Evaluation at the levels of implementation, impact and effectiveness generate information that can be used both to change the intervention strategy and to improve the care system. Changes are registered in the residents' behaviours, in the careworkers' ideas about and behavior towards the residents, and in the management team. The evaluation shows improvement of the educational program and confirms that any intervention should start with thorough training of the management team.

Introduction

In institutional care programs, professionals experience many problems in educating the profoundly mentally and physically handicapped.

The problems exist at the level of the profoundly mentally and physically handicapped, at the level of the professional worker in relation to the handicapped and at the level of the management team.

Nakken (1987, 1992) and Nakken and Loots (1987) reported that the usual perspectives in education are not feasible and that adequate means are lacking. If insufficient attention is given to these aspects, social isolation of residents and unnecessary delays in their development may result. Specific assistance in educating the profoundly multiple handicapped is necessary.

Management teams are not used to systematically evaluate educational programs and basic care programs. Formal planning and control have hardly been developed, and standardised evaluation and measurement procedures are lacking. The shortcomings arise from a lack of knowledge about procedures and instruments to assess educational and care goals at different organisational levels of a care program. This means that important information about the functioning of a care program is easily lost, so that insight into goal-achievement and program-efficacy cannot be gained.

Objective

The goal of our research program is to improve institutionalised care for the multiply handicapped. We want the handicapped in such

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institutional settings to enjoy a better quality of life with their careworkers. We want to achieve this change in daily life quality by implementing and evaluating interventions in a variety of institutions for the mentally handicapped. An intervention is any program, or any other effort, designed to produce changes in a target population. The goal of the interventions is to implement systematic methods of work within an educational framework (Vlaskamp, Van Wijck and Nakken, 1993). Three organisational levels are involved in the intervention: the careworkers, the front-line managers (group leaders) and the middle management. The intervention program is applied using four methods of instruction: informing, training, guidance in practical situations, and providing written guidelines (Van Wijck et al., 1991). The content of the intervention program covers the problems elicited by the educational analysis (Vlaskamp et al., 1993).

The concrete aims of the intervention program are to increase knowledge about the functioning of the residents and to teach careworkers, front-line and middle management to work systematically within an educational framework. To this end, following a protocol in care and systematically evaluating (educational) goals at different levels of the care system, is essential. Management at all levels are trained to conduct evaluation procedures.

In order to provide the organisation with the capacity for self-evaluation, we, as external evaluators, tried to implement a form of continuous internal program evaluation. Attkisson and Hargreaves (1977) have identified stages of internal evaluation activities ordered on a developmental continuum. Developing the capacity for systematic evaluation marks the beginning of a useful internal evaluation capability. Subsequent stages include the capability to evaluate goals, effectiveness, efficiency and strategic benefits (Love, 1991).

This paper will focus on the evaluation strategy and the design of interventions in the care system. This paper concludes with some of the main results of the intervention-evaluation and two examples of measures given in more detail.

Previous Research

Social researchers have used different approaches to try to improve the institutional situation for the profoundly multiply handicapped. Some of the approaches will now be briefly discussed:

Previous research (WVC, 1987) was aimed at answering the question of whether increasing the number of careworkers would have a positive effect on the development of functional abilities of the residents. This research project, based upon a single case experimental design could not confirm the hypothesis: very little progress was found. More time spent attending to the residents does not result in increased progress in functional abilities.

Other research, conducted by Seys (1987), showed that increasing the number of careworkers does not guarantee an improvement in care: a qualitative and quantitative decrease in resident-directed behaviour was found when the number of careworkers was increased.

A third research project (Van Andel, 1991) was directed at reducing careworkers' workload by limiting the amount of time spent conferring with other careworkers, such as physical therapists. Careworkers were satisfied with the resulting decrease in their workload. However, they also reported a lack of interdisciplinary contact and uncertainty in their daily interactions with the residents. Many careworkers were dissatisfied with the large number of situations in which residents were bored.

In all the above-mentioned research studies, an educational dimension in both the analysis and objectives is missing.

Evaluation Strategy

Our evaluation problem concerns the question of how to investigate both the effectiveness of an intervention and the development of an intervention program within an educational framework, within the same research project.

To answer this question, we applied four interventions consecutively in different institutional settings, following the principles of program evaluation (Suchman, 1967, Attkisson and Hargreaves, 1978, Patton, 1980, Cronbach et al, 1980, Rossi and Freeman, 1989, Alkin, 1990,

Love, 1991). The results of the first intervention served as an input for the second intervention, allowing inadequate program elements and measuring procedures to be changed, so that the overall course of intervention could be adjusted. Changes and adjustments were not only made to the content and organisation of the intervention, but also to the measuring instruments and procedures used in the research. The second intervention, thus tailored, then provided the results for input for the third intervention, and so forth.

This study on program evaluation can be said to be innovative in more ways than one. Firstly, as Rossi and Freeman (1989) said, a program or intervention is innovative when the program itself is still in an emerging phase: there is very limited evidence that it has an impact as an installed program. Secondly, the targets of the intervention are markedly new, and thirdly, never before has a comparable program been implemented to this specific population.

Program Evaluation

Evaluation is a type of policy research, designed to help people make sensible decisions about future programming (Weiss, 1988). However, program and policy decisions are not the exclusive responsibility of a few, but are the result of multiple action by multiple actors. Cronbach (1980) already said: "What we need from evaluation is information that supports negotiation rather then information that points out 'the correct decision' ". In addition to this, Guba & Lincoln (1989) emphasise that evaluation information serves the stake holders of a program, or the evaluation thereof.

Program evaluation is considered to be useful both as a theoretical and a procedural framework to investigate the aims of an intervention and contribute to the development of a program, based upon an educational analysis and directed at different levels of the care system.

We see program evaluation as an interaction between science and practice, where parties from both fields of knowledge share their ideas in problem analysis. Alkin (1990) and Rossi and Freeman (1989) give a more technical definition of evaluation. Evaluation uses the whole array of social science research and refers to the activity of systematically collecting, analysing and reporting information that can be used to change attitudes or to improve the operation of a program . The word "systematically" stipulates that the evaluation must be planned. In accordance to Patton (1990), Weiss (1980) and Rossi and Freeman (1989) we can summarise that evaluation researchers use social research methodologies to judge and to improve the ways in which social intervention programs are conducted, designed, developed and implemented.

Research Design

The evaluation process of our research project commences with a preliminary analysis. At this stage, our attention is focused on engaging stake holders and on verifying that the problem expressed in the initial phase is valid.

As well, preliminary analysis is directed at assessing the organisational readiness to change and at the organisation's evaluation capability. Important questions that must be answered are: at which organisational level is what kind of information available or required, and which measuring and evaluation procedures are used (including instruments to measure the functioning of the residents). Next, the intervention program is executed. The course of the program is closely monitored and adjustments to the program are made if interim process evaluations indicate that this is necessary. Aside from these formative evaluations with rapid assessment instruments and Goal Attainment Scales (Kiresuk and Sherman, 1968, Kiresuk and Lund, 1978), data is gathered for summative evaluation using standardised self-report instruments, document analysis, interviews, and Goal Attainment Scales. These measurements aim of determine the job satisfaction of careworkers and management team members, assessing their knowledge and abilities concerning the functioning of residents, evaluating the goals of the care program, and assessing the capability of the management to conduct self-evaluation. Summative measurements are made before the intervention, immediately after the intervention is completed, and in two follow-up studies, four and eight months after completion, respectively.

Links in the Chain of Evaluation

Interventions are evaluated in three different ways: implementation evaluation, impact evalu-

ation and effectiveness evaluation. These three evaluative forms are used jointly to provide information that can be used to change both the intervention program and the intervention strategy, including the research instruments.

Firstly, at implementation level, evaluation must determine whether or not the program is running according to plan and whether those involved are keeping to the terms necessary for evaluations. In this case, we refer to process evaluation or, when the evaluation is continuous, monitoring.

Secondly, evaluation can be directed at determining the impact of an intervention. In this case, one can ask whether the program is getting across: are the targetted groups changing their ways of functioning and management? Are target figures attained?

Thirdly, evaluation can be concerned with assessing the effectiveness of a program. Intervention effects are judged on how they meet the intrinsic goals of a program. These goals are abstract criteria and include general concepts such as the acceptance of the program and the quality of care given.

These three types of evaluation must be seen as distinct but inherently connected parts of one process. There is a certain connection, with one thing following out of another. The effects of an implementation are based on results, and these results in turn are based on whether or not an implementation is successful. Following along the lines of Hofstee (1991), one could state, that in the ideal situation, accurate evaluations of a variety of implementations, when followed by impact and effect evaluations, will lead to causal conclusions about the value and future of a program.

In implementation evaluation, we must first determine whether, according to the results of preliminary analysis, changes in the content or organisation of the intervention program are necessary. Next, we examine whether the implementation methods used by the researchers (for example, the levels of instruction, the content of the program, the feasibility of measurement procedures) need to be adjusted. This can be examined during and after execution of the intervention. The next step, when the intervention is introduced, is to assess whether careworkers work systematically, according to the model presented to them during the training course (instruction methods: informing and training).

When one wants to determine the success of the intervention program and whether immediate results can be seen, evaluation must be directed at the impact level. Results can be gathered from residents' behavior, from the interaction between careworkers and residents, and from observing other areas of functioning of careworkers and managers.

At the level of effectiveness evaluation, more abstract goals are assessed, such as the degree of acceptance of the program and the quality of care given. The results of evaluation are assessed using multi-trait multi-method and convergent evidence. The reference frame for assessing the results at this level is the educational analysis: an effective intervention contributes to a more adequate care program. Effectiveness evaluation shows to what extent a care program fulfills the educational needs of the residents.

Research Instruments

Evaluation information is gathered using the Gedrags Taxatie Instrument (Behaviour Assessment Instrument) developed by Vlaskamp en Smrkovsky (1992). This instrument is based on the Behavioural Assessment Battery of Kiernan & Jones (1982) and has been adjusted for use with the profoundly mentally and physically handicapped. The Goal Attainment Scales (Kiresuk, 1973, Kiresuk and Lund, 1975) were used to show behavior changes in residents, careworkers, and management. The organisational readiness to change was determined using the Decision Determinant Questionnaire, such as used by Bedell (1975), and the remaining context information was collected using two "diagnostic"instruments designed by ourselves and called: (Vlaskamp and van Wijck, 1992); the Inventarisatie van de Pedagogische Zorg (Inventory of Educational Care) and the Inventarisatie Kenmerken Opvoedingssituatie (Inventory of Characteristics of the Educational Situation). Data concerning job satisfaction was collected with the Target Complaints (Sloane, 1975, Battle, 1978) and the Job Satisfaction Questionnaire, designed by ourselves as well (van Wijck, Dess-

ing and Vlaskamp, 1993). The evaluation capability is examined by the use rapid assessment instruments, standardised interviews and document analysis.

Results

The evaluations confirm that an intervention ought to be started with a thorough training course at the management team level. The intervention strategy can only be succesful when this is done (Van Wijck et al., 1991).

Further at the implementation level, we have evidence that the careworkers and management team learned a lot from the intervention program.

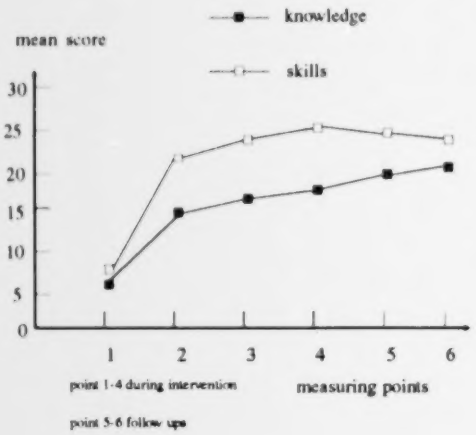
At impact level, changes were registered in the residents' behavior, in careworkers' ideas about and behavior towards the residents, and in the management team. This team has proved to be capable of managing systematic evaluation at the operational level with respect to goal achievement.

The evaluation of the intervention shows program efficacy: there is improvement of the educational program at the effectiveness level. Positive influences on the functioning of the residents can be shown; the data also shows that communication between the residents and their careworkers has improved. Problems that careworkers experience in their daily interactions with the residents or in educational situations, can be solved by teamwork and joint efforts with management. Careworkers and management are pleased with the changes in the work environment and with the effects of systematic functioning. In concerning the resident, evaluations of (interim) goals are conducted systematically. Using the information gathered, the management team is capable of self-evaluation. The knowledge and skills taught to the careworkers and to management, ensure that the residents will also continue to profit from the new approach.

Using the method of program evaluation, management can further improve educational care (continuous and subject-oriented) for the profoundly mentally and physically handicapped and guarantee its quality for the future. This bridges the gap between the objectives of institutional care programs and the special educational needs of the residents.

After this overview of the main results of the intervention evaluation will be given two examples of measures more detail.

Figure 1: Knowledge and skills of careworkers during intervention and follow ups



Knowledge and Skills of Careworkers

One of the concrete aims of the intervention program was to increase the careworkers' knowledge and skills concerning systematic methods of work within an educational framework. Every two weeks, immediately after a practical guidance session, we closely monitored the progress in knowledge and skills with the help of a rapid assessment instrument.

In figure one a difference is made between "knowledge" and "skills". The mean scores for knowledge and skills slightly increase during the intervention period. The skills start on a higher level and they are more progressive with respect to knowledge. During the follow up periods the tendency concerning knowledge continues. The scores about skills decrease slightly. This decrease can be seen as a variation within a stable range. Eight months later knowledge and skills both stabilise at a higher level than at the beginning of the intervention.

This data indicate, that care workers are capable of working systematically in an educational framework after the intervention, which contributes to the effectiveness of the intervention program and to the satisfaction of the care workers.

Goal Attainment Scaling Procedure

An analysis of the GAS procedure is another method to get insight into the effectiveness of the

Table 1: Formal judgement of sub-goals

	measuring points						total
	1	2	3	4	5	6	
number	41	34	39	42	55	68	279
selection	31	27	32	33	48	61	232
perc. %	75	79	82	79	87	90	83
mean %	79				87	90	
1-4:	during intervention						
5:	1st follow up (after 4 months)						
6:	2nd follow up (after 8 months)						

intervention program. One of the main goals is to teach careworkers and middle management to work systematically and to conduct self-evaluation procedures. To get further insight a two way analysis is made: one was a formal judgement of the goals with respect to three criteria; the other is a subsequent computation of the GAS scores.

As we see, 79% of the sub-goals during the intervention period is formulated correctly and measurable. This number increases during both the follow ups to 87% and 90% respectively (wich is far above criterion-value of 60%)

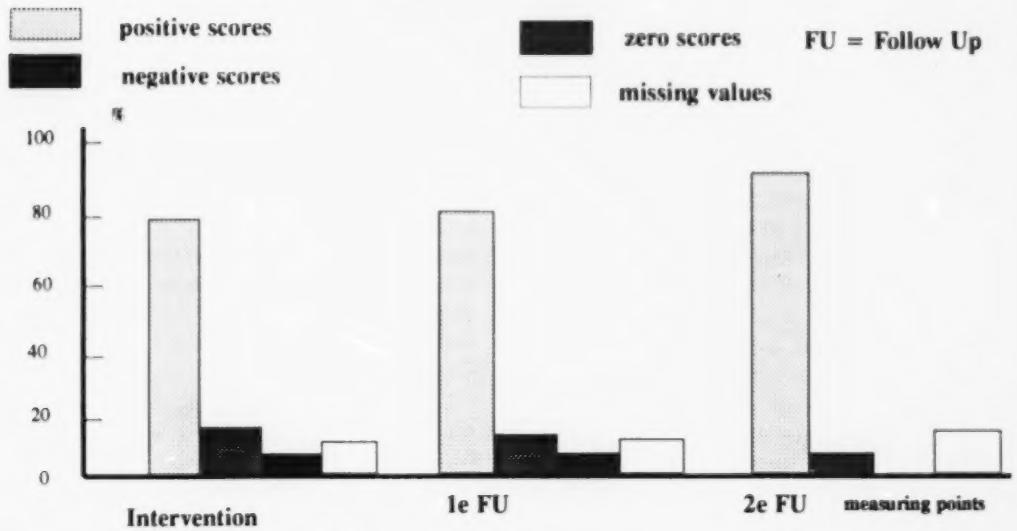
This indicates that careworkers and the middle management learned a lot in the beginning and from the first stage they are capable of designing and evaluating sub-goals correctly on a respectable level. At the last measuring point, 8 months after the researchers have stepped back, the care workers' and middle managements' capability of designing and evaluating sub-goals remains. This contributes to the organisations' capacity for self-evaluation.

Analysis of the GAS Scores

In this project it is important to establish whiter or not the care workers have the capability of designing adequate goals for the residents after intervention. The first GAS analysis showed us the amount of sub-goals correctly designed and evaluated. The mean percentage of these sub-goals positive scored indicates their adequacy with respect to the educational needs of the residents.

In this figure we see nearly 80% of the GAS-scores are positive during the intervention period. In the follow up period this percentage is 75 and 85 respectively. The zero scores decrease and the negative GAS scores, which indicate that a sub-goal is not well chosen, can be neglected. There are about 10% "missing cases". The 60%

Figure 2: GAS scores



criterion for success is reached during and after the intervention four and eight months later.

Bond on this study we can conclude, that care workers and middle management are capable of designing and evaluating adequate sub-goals immediately after the intervention. This capability remains after completion of the intervention until at least eight months. The residents' functioning can be influenced in a positive direction due to this skillfulness. That is at least one reason why the improvement of the educational program can be called stabilised. This contributes to the satisfaction of the careworkers, management and to the satisfaction of the researchers as well.

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Perspectives and Goals: Central Issues in Intervention

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ABSTRACT: During a series of interventions in institutions, schools and at home, we developed a procedure to enable educators to work effectively with children with profound motor, mental or multiple disabilities, using perspectives and goals. Our main results are presental in this article.

Introduction

The present article emphasizes the problems of determining perspectives and setting goals, for perspectives and educational goals are basic to the education of severe and profoundly handicapped children within the family, the substitute family situation and schools (including the substitute school situation). To substantiate this claim, we shall define the term "education" and distinguish between educating children in general and educating profoundly handicapped ones.

Although no two children have exactly the same handicap, they all fall under the category *"severe or profoundly handicapped"* (see also Bach, 1991). It is not so much a particular isolated disorder or a combination of disorders that mark these children as a group, but their extreme and permanent social dependence.

The Education of (Profoundly Handicapped) Children

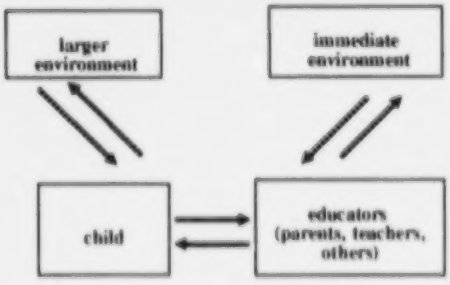
In general, education is understood to mean preparing the child for an independent existence in a society that the adults involved have in mind. In this view, education equals upbringing and schooling (see Passmore, 1980; White, 1990; Spiecker, 1992; and Nakken 1992).

This is, of course, not to say that there are no differences between education at home (aimed at developing the personality) and at school (aimed at acquiring knowledge). At the same time, we should take note that it "only" concerns differences in emphasis on two aspects that are both important. Education has to do with a child wanting to adopt part of the adults' views. Educators and children must be able to communicate, therefore. It also concerns educators who know what they want to achieve (in relation to the child's behaviour and to what it will learn) and live in an environment (educators and child together) in which educational intentions can be realised. This can be the "immediate environment" with people who exert a direct influence on the child's education, such as the other children in the family, relatives or children who are in the same class at school, but it can also be the "larger environment", such as, the religious community, neighbourhood or school (Figure 1).

To educate effectively, "all that teachers must do", usually, is to offer general educational material, and "all that parents must do" is to live in a neighbourhood which stimulates the child in the desired direction and to offer their children love and security. It is true of children in general that they can learn by participating, comparing, trying things out, by chance and by reasoning, without planned interventions of adults (Weber, 1972, p. 47).

This, at least, is different when it concerns educating severe and profoundly multiple handicapped children, who have far fewer possibilities to acquire their own experience because of their (motor, mental and often even sensory) limitations (Le Gay Brereton, 1972a; Nakken & Den Ouden, 1985; and Vriesema, Nakken en Den Ouden, 1985). Educating severe and profoundly multiple handicapped children is more than just a matter of caring, offering affection, providing (material) support and organizing suitable facili-

Fig.1: Education as a relation between child, educators and environment



ties, it also includes tailor-made interaction and instruction, which are based on an analysis of children's possibilities and limitations within the educational environment.

There are a few interrelated problems. Some educators think that everything should be planned, because it is so difficult for the child to acquire its own experience. Thus, the child's freedom is not only curtailed by the child's limitations but also by the lack of opportunities to do something on its own (without adult interference). This might be termed "overplanning". There are cases of extreme overplanning, such as, the Doman therapy, for instance, which controls the child's life but for the content of its sleep. Applying this form of overplanning lacks justification. It is neither corroborated by scientific analysis of the method nor by empirical results (Cummins, 1988). On the other hand, there occurs a lot of "underplanning" as well, which is the case when parents do not do much more planning than they would have done for the non-handicapped child. This can be caused by either ignorance (educators only do what they know from their own experience) or fatalism (there is not anything that can be done) or insecurity.

It can also be a matter of "partial" underplanning or overplanning (or both). It is a matter of partial underplanning if (technical) facilities and (medical) care are dealt with, but other aspects, such as, stimulating the child to gain fresh experience, or offering affection are neglected. (This child is well taken care of, what else can one do?) Partial underplanning can be conceived of as (partial) neglect. Partial overplanning occurs when one aspect gets all the attention with the accurate planning that goes with it, so that there is little time or energy for all the other aspects of education. Penetrating propaganda for certain programmes, for example, in cognitive stimulation, tend to stimulate overplanning. Sometimes even scientific publications are used to show that profoundly handicapped children can still learn a lot. The question is not, however, whether science, or the behavioral sciences in particular, can prove that something can be learnt, but what is useful for the child to learn in view of its future existence.

Perspective and Goal

The problems of overplanning and/or underplanning involved in educating severe and profoundly multiple handicapped children are closely related to the fact that there is no on-going discussion about the uncertain expectations of the future (the perspective) for the child.

Without such a discussion, it is impossible to determine what should be done with the child, the educators and the environment in the educational situation.

How can we make a plan that counteracts underplanning and overplanning? Such a plan must have a number of steps. The starting point is one's view regarding the integration of severe and profoundly multiple handicapped children (people) in society (e.a. Flynn & Nitsch, 1980). This article has been written from the point of view that profoundly handicapped children have not only a right to instruction but also a right to live (and communicate) within a family or a comparable unit, which should be open to all people. This right to instruction involves more than simply training the child to adapt to normal society to the best of its abilities: society should

be instructed to adapt to the impossibilities in the child's development. This point of view asks for an accurate analysis of the (im)possibilities of both the child and the educators in their environment and an analysis of the ideas (theory) one has about the child.

The analysis is basic to the formulation of a **perspective.** The problem with determining the perspective is the uncertainty about the possibilities. It is difficult to determine how serious a handicap is, because there is no suitable diagnostic set of instruments (Mittler, 1970) and it is up to research to develop this set of instruments. The uncertainty about the seriousness of the handicap is not the only factor. The future possibilities in society are extremely uncertain as well. It would be wise, therefore, not to plan ahead for more than a few years. It may even be necessary not to formulate the perspective as yet, but to wait until more information is available.

A perspective must lead to the formulation of a **main goal** (the long-term goal) concerning education/interaction. This, then, is the set target for the time ahead (say, half a year). The main goal can lead to **sub-goals** (short-term goals). The most important problem is the relation between short-term goals and long-term goals. Group-educators (care staff) of the multiple handicapped are used to solving acute problems, or giving training in skills (such as, gestures, or toilet-training). In a number of cases, the effectiveness is demonstrable. Often, the context (the long-term goal) of the training has not been considered properly, so that the judgement of the desirability of the training is lacking and the long-term effects are very uncertain.

The next step in planning the child's education is drawing up **the means** to realise the (short-term) goals. The main problem is that many of the means have been developed without considering individual differences (fixed order curriculum), the seriousness of the handicap (unfeasible curriculum) or the aim for which they have been developed (books with nice games, but what purpose do they serve?).

The last step in the education plan is to **evaluate** the effects of the application of the means.

There are no standard methodological regulations to guide the evaluation of individual goals. There are no ready-made answers, but these answers were -and still are, as a matter of fact- sought in methodological instructions aimed at researching the single case (the N-1 type of studies, Barlow & Hersen, 1984). If more cases are being evaluated, quasi-experimental designs are used (Cook & Campbell, 1979). Using these methodological instructions has its problems, because they were developed in order to assess quantitative material. If qualitative information is to be subjected to an analysis, other literature should be consulted (see e.g. Miles & Huberman, 1984; Rossi & Freeman, 1989; Patton, 1990).

A few research centres in the Netherlands have conducted research for a period of fifteen years on the use of the perspective, goals and evaluation in order to improve the educational plans for profoundly handicapped children. The research has led to intervention strategies, which are now being used and whose effectiveness is being subjected to research. The development of strategy design will be briefly discussed in section 4 (for detailed information consult the literature, as far as available in English).

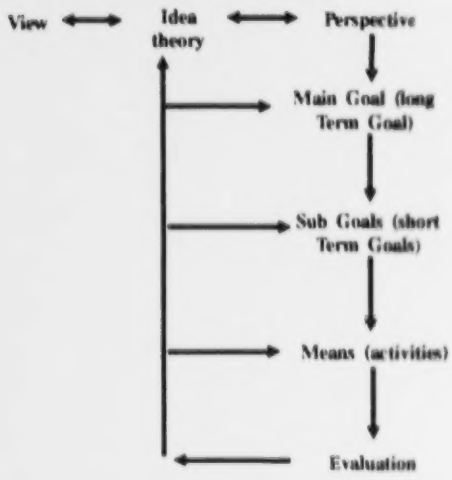
The research carried out must be seen in a broader scientific context. It is best described as evaluation research (Patton, 1990), which focuses on improving a specific intervention programme for aid in a specific case (formative evaluation), but strives for summative evaluation. "Summative evaluation research tests the effectiveness of some human interventions..... for the purpose of deciding..... [whether] that program.... is effective within its limited context and under what conditions it is likely to be effective in other situations or places (Patton, 1990, pp 155 - 156). Finally, evaluation research supplies new material for solving fundamental questions (e.g. why do professional educators educate mentally handicapped children the way they do it-in schools, institutions or day-care centres?). The answer to these questions can, in turn, contribute to improving the interventions.

We summarise our educational plan in figure 2.

Working with Perspective and Goal as Intervention

The research on working with goals started

Fig. 2: Individual educational plan



with an analysis of the theory and results of stimulation programmes for handicapped children (Nakken, 1983; Nakken & Den Ouden, 1985). The aim was to determine the effectiveness of the instruction of handicapped children. We have formulated a number of preconditions on the basis of this analysis.

- The programme must train the skills one wants it to train.
- The more indirect the goals, the more doubtful the effect.
- The programme must suit the child's capabilities.
- The programme must focus on fostering the understanding between the child and the parents/teachers or other children.
- The programme must focus on attainable goals to facilitate quick results.

This led to a **first series of interventions**, which were carried out to be able to reach short-term goals in relation to instructing severe and profoundly multiple handicapped children in a day-care centre and a school (age 3-7 years; diagnosis: cerebral palsy). The project involved a special teacher who worked with the child in a separate room according to a set programme (an adaptation of Le Gay Brereton, 1972b), which was aimed at acquiring experience and, consequently, at stimulating the child's development. Criterion measuring (is the set criterion attained or not?) was used in order to see whether the targets were met, always in relation to the activities that were carried out. In addition, qualitative descriptions were analyzed to see how the result came about. The effect of instruction on the development was examined with an evaluation instrument (composed of various evaluation instruments and tests) which we designed ourselves. We worked with both an experimental and control group design (N = 6) and a repeated treatment design for one group (N = 11), which had periods of training alternate with periods of non-training.

We drew the following conclusions from this series of interventions:

General development and criterion behaviour change in the same direction during training and non-training periods. Although the changes are rather small, they have statistical significance. The alternative explanation of the results-that the attention paid to the children during training causes progress in testscores — cannot be excluded.

The objections to this procedure were:

- Using a programme with a fixed order of activities per goal (insufficient individual help).
- Not acting within the educational situation itself (bad transfer).
- Not having an instrument which can serve as a direct evaluation of the goal and at the same time as feedback to the educator.

The **second series of interventions** was carried out in schools for motor and multiple handi-

Fig.3: Goal, means and subjects for evaluation in the first series of intervention

SITUATION	GOAL	MEANS	EVALUATION
Day Care	Stimulating	Set Program	Development In General
Centre	Development		Criterion Behaviour
School			Process

Fig. 4: Goal, means and subjects for evaluation in the second series of intervention

SITUATION	GOAL	MEANS	EVALUATION
School	Stimulating Development	Educational Curriculum with Information and Instruction on Working Towards Goal	Criterion Behaviour
	Improvement of Communication		Process
	Improvement of Instruction		Teachers' Opinion

capped children (age 3-8 years; Den Ouden et al., 1986; only published in Dutch). Working towards goals was implemented in the classroom, carried out by the teachers and coached by the researcher (the solution to the second objection). The goals concerned (for example), stimulating experiences, learning skills, or interaction between child and teachers. There was the possibility of using a book with suggestions for play (Loots et al., 1984; only published in Dutch) (the solution to the first objection). Apart from working with the evaluation instruments of description of activities (reports filled in by the teacher) and interviews, the project worked with Goal Attainment Scales (Kiresuk & Lund 1987, Simeonsson, Huntington & Short, 1982). The scales were used both as an evaluation instrument and as a mean of giving feed back (the solution to the third objection). The project also used a repeated treatment design with a control group (experimental group N = 42; control group N = 21).

We drew the following conclusions from this series of interventions:

- The experimental group improved in accordance with the goals set.
- In comparison with the control group, the experimental group showed a larger increase in task-oriented behaviour.
- The teachers were able to make goal attainment scales and predictions about the time that would be necessary to reach the goals; yet, for most children, the predictions were too optimistic.

The objections to this procedure were:

- It takes too much time to design scales, think out activities and fill in evaluation forms.
- It is difficult to make this procedure fit the normal educational set-up.
- Hardly any attention is being paid to the general pedagogical questions of teachers, although there is a strong need for it.
- It is unclear (which was also true for the first series of interventions) what permanent effects the method has on the development of the child and on the relation between child and educator(s).

In a third and fourth series of interventions, we tried to meet the objections and develop the method in situations that were very different from each other.

The **third series of interventions** evaluated working towards goals in families with a young child which had severe and profoundly neuromotor and mental disabilities (age1- 2.5 years; Vriesema, 1990 and Vriesema, Miedema & Van Blokland, 1992). The aim was to develop an intervention in which the parents themselves could work with perspectives, goals and means without disturbing the family's daily routine (the second objection of the previous experiment). During the intervention attention should be paid to the (educational) skills and problems of parents in general (the third objection). We also wanted to prove as accurately as possible that this form of intervention prevents (further) retardation in the child's development (the fourth objection). We used different pretest-posttest designs, one included groups from different regions (three times five families) and one with a baseline measurement (18 families).

In the first intervention, the coaching of the parents was done by the researchers themselves. In the second intervention, it was done by therapeutics with whom the child was already in therapy (speech therapy or physiotherapy). The evaluation of working with perspectives and goals was based on goal attainment scales, ques-

Fig. 5: Goal, means and subjects for evaluation in the third series of intervention

SITUATION	GOAL	MEANS	EVALUATION
Families	Stimulating Development	Program for Parents	Development in General
	Improvement of Communication between Child and Parents	Information Instruction Support Referral	Criterion Behaviour
			Communication
	Parents Work with Perspectives Goals and Means Solving General Educational Problems		Parents' Behaviour/ Knowledge
			Process
			Parents and Therapists Opinion

tionnaires and the reports of the coaches. In order to evaluate the educational skills and problems, we used the Home Observations for Measurement of the Environment (HOME, Caldwell & Bradley, 1984) and a questionnaire. The development was measured with various development tests (dependent on the child's age and level). The changes were measured in accordance with the Proportional Change Index procedure (Wolery, 1983)

We drew the following conclusions from this series of interventions:

- Parents feel stimulated to play with their child, because they think in terms of perspectives and goals. They have increased their insight into the child's opportunities for development, and can tune their actions accordingly. It is effective in terms of attaining goals (significant changes at the GASs).
- Parents' educational skills increase (the HOME-score increases significantly in one intervention).Parents think highly of the support they received with general and educational questions.
- The intervention prevents the lag in development compared to normal development.

In a **fourth series of interventions** working with goals was tested in institutions. We worked with a group of residents with profound mental and physical handicaps (ages 8-25 years; Vlaskamp 1992; Van Wijck 1992). The aims were to design an intervention which enabled group educators to work with perspectives and goals and to have the entire institution adopt the method. We worked with courses for the group educators and executive staff and gave training "on-the-job" (the first and second objection of the second experiment). This intervention was not concerned with preventing a lag in development. It focused on stimulating activities and interaction between group educators and profoundly handicapped children. We used a "one group pretest-posttest design" in several institutions for the mentally handicapped and re- measured twice to establish the permanent effects. We used, for instance, an inventory of educational care and the Behaviour Assessment Battery (Kiernan & Jones, 1982) for low level residents in order to establish a perspective. For the evaluation of intervention, we used questionnaires (in relation to the knowledge and skills of the group educators, job problems and job satisfaction), reports (group educators and researchers) and goal attainment procedures.

We drew the following conclusions from this series of interventions (see also for more details Vlaskamp, 1993 and Van Wijck, 1993):

- There are positive effects on the functioning of residents, and more intensive interaction between residents and group educators.
- The group educators are able to work with perspectives, goals and activities. In their opinion, this method makes their job easier. In most cases, the executive staff were able to take over the supervision after a while. The establised effects were permanent in those cases.

Fig. 6: Goal, means and subjects for evaluation in the fourth series of interventions

SITUATION	GOAL	MEANS	EVALUATION
Institutions	Establishing Individual Educational Programmes	Program for Care-staff and Executive Staff on Fourleveles of Insruction	Criterion Behaviour
			Communication
	Improvement of the Educational Situation in General		Behaviour/Knowledge
			Group Educators and Executive Staff
			Process
			Group Educators and Executive Staff Opinion

General Conclusions

Interventions aimed at promoting (professional) educators work with perspectives and goals have positive effects on the quality of the education of severe and profoundly multiple handicapped children. The quality of education is understood to mean attaining goals which contribute to the development of the child and/or more interaction between child, educators and environment (no matter how limited). Interventions require an accurate and specific picture of the child, educators, interaction and environment, but it is also necessary to develop instruments to get this picture clear.

Another requirement is a specific evaluation (complete with instruments that have been developed before or during the experiment.

Permanent effects are to be expected within an infra-structure ("the larger environment") which provides permanent coaching of the (professional) educators. This had not been realised in full during the third and fourth series of interventions. Interventions based on the method our department has developed are now being implemented and evaluated. They aim at (re)organising the supervision of educators in various situations.

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Development and Evaluation of Individual Educational Care Programs for Profoundly Multiple Handicapped Persons

Carla Vlaskamp

ABSTRACT: In this paper, implications for the education of profoundly multiple (mentally and physically) handicapped are given. From our point of view, as expounded underneath, the educational care for the profoundly multiple handicapped still lacks individualisation and continuity. We have developed and implemented an intervention programme that enables us to design individually oriented educational programmes for the residents concerned. The development of individual educational programmes is presented step by step. Systematic and goal directed evaluations are important in this development. We conclude that by means of this intervention programme, educational needs and desires of the profoundly multiple handicapped become distinct.

The Target Group: the Profoundly Multiple Handicapped

In our study (Van Wijck et al 1991) we concerned ourselves with the (residential) education of people with profound or severe mental retardation and profound physical dysfunctions. In many cases these persons have additional sensory impairments and/or severe epilepsy. These profoundly multiple handicapped have a high level of dependency as they are unable to feed, dress or toilet themselves. They have virtually no language and are considered to be unsuitable for education and training. Their mode of communication seems aberrant, their ways of interaction are primarily non-verbal. As a consequence of the diversity and the complexity of their non-verbal behaviour, establishing a means of communication with these residents is found to be very difficult. In this text, we will refer to these persons as "the profoundly multiple handicapped".

Most of the recent literature on profound multiple handicapped states that multiple dysfunctions together lead to a distinctively new and dif ferent educational problem. We fully agree with this point of view. A multiple handicapped person cannot be looked upon as the sum of the individual consequences of each distinct handicap. We prefer to think in terms of the association of impairments as a configuration of conditions to be given equal weight in our considerations (Hogg and Sebba, 1986)

Problems within the Residential Care for the Profoundly Multiply Handicapped

Due to the severity of the mental and physical dysfunctions, most profoundly multiple handicapped live in an institution. They are cared for by professional care-staff members. They are in need of special therapists, like physiotherapists, speech therapists, occupational therapists, play therapists etc. Notwithstanding the level of professional care, there are considerable problems

in educating the profoundly multiple handicapped. On the one hand, as a consequence of the severe mental, physical and sensory dysfunctions, for these residents it is difficult to seek attention or to initiate play in a way that is understood by the care-staff. There is, in other words, no shared understanding, often because the care-staff aren't used to self-consciously considering their interactions with a resident. "Not understanding" is then attributed to the resident's disabilities.

On the other hand, the care-staff are insecure about the educational perspectives. They are insecure about the possibilities of development, the pursuing of aims in education. They feel insecure about means and ways of communication. Consequently, communication between residents and care-staff is often laborious or doesn't come into being. Care-staff run the risk of demotivation and "burn-out"; residents run the risk of becoming isolated. Not seldom, care-staff members intensify their activities in areas in which they don't feel insecure and they increase their routines. In addition to these problems in communication, nursing activities are quite numerous, time pressure is frequent, there is a high turn-over of staff and frequent staff-shortages. Consequently, to the resident, the most crucial persons in their lives are constantly changing, making it even more difficult for attachments to form and for communication to develop.

These problems can be summed up in two statements. First of all, the focus in most institutions is on the dysfunctions rather than on the individual. Although attention is given to the individual needs, in most institutions the aim is to structure an approach that will minimise diversity among residents. This is a way of "individualisation" that is not based upon full awareness of the individual (Gleason, 1989, p. 137), the professional practice being uninfluenced by the consideration of its meaning for the individual resident. Consequently, educational approaches run the risk of being irrelevant and inappropriate as they do not fit into the unique pattern of the resident's needs and desires.

Secondly, there is little continuity in the education of the profoundly multiple handicapped. This is mainly due to the absence of context in observation and reporting of the resident's behaviour by the care-staff and the therapists involved, leading to an increased lack of knowledge on the profoundly multiple handicapped. Without context, the observation and reporting one the resident's behaviour is often reduced to isolated facts concerning the individual. Care-staff interpret the resident's behaviour, but often misunderstands the intent and meaning. This misinterpretation is perpetuated within the system of recording of the resident's behaviour. Regardless of the interpretation being correct or incorrect, care-staff aren't used to sharing their understanding of the resident other than by recording an identifiable fragment of behaviour. As a result of the high turn-over of the care-staff this implicit knowledge disappears every time a care-staff member leaves the institution.

Profoundly multiple handicapped are in need of specialists: doctors, speech therapists, play therapists, physical therapists etc. etc. Each discipline contributes a part to the whole, but information gained for each separate therapy is not integrated. An educational context is lacking, focus being in most cases on a specific part of the disability of the profoundly multiple handicapped. Lack of context results in short interactions that become part of a prescribed routine. This routine tends to lead, in quite a number of cases, to a situation in which the profoundly multiple handicapped receive only custodial care.

We believe education relies on individualisation in, and on continuity of care. To realise individualisation, special educators should be trained into thinking about educational perspectives for the profoundly multiple handicapped. This is an imperative as much of the quality of the lives of profoundly multiple handicapped is based on our comprehensive understanding of them. In this process reciprocity is our guiding principle.

Continuity means a consistency in approach, increasing knowledge about residents incorporated in a comprehensive understanding. Continuity, therefore,is not meant as a continuity in persons, but as a continuity in the systematic extension of our knowledge and the nature of our involvement in the lives of the profoundly multiple handicapped.

The Intervention Program

The education of the profoundly multiple handicapped should be based on the differences which reside within each individual resident and are unique to their functioning. We address this uniqueness by developing and evaluating individual educational goals. The first step in developing these individual educational goals is to establish a programme. Only when a programme is established, with distinct goals and means, evaluation becomes possible.

In our research (Van Wijck et al, 1991), the ongoing educational programme (the programme that was currently applied in the institutions) was evaluated. In addition, a specially designed intervention programme (Vlaskamp and van Wijck, 1990) based upon an educational analysis (Nakken and Vriesema, 1987) was implemented. The emphasis in this text is on the intervention programme designed to develop and evaluate individual educational programmes.

The theoretical premises of this intervention programme are twofold. First, we start from the principle that profoundly multiple handicapped are capable of establishing meaningful relationships. These residents are a heterogeneous and complex group of individuals who demonstrate a wide range of ability and talent in their involvements with one another (Gleason, 1989). Secondly, we feel that the care for the profoundly multiple handicapped should, to a substantial extent, be planned so as to give full consideration to their educational needs (Nakken, 1992; Vlaskamp et al, 1990, 1993).

This intervention programme is implemented at four levels of instruction: information, training, support and written directions. Information is provided during a four months course and is mainly directed to aspects of educating the profoundly multiple handicapped and to the principles of programme-evaluation. In this course we also present our working model. This model will be explained more thoroughly in the next paragraph. On the basis of this model, special educators, care-staff members and therapists analyse their current practice and design a tentative educational programme for individual residents. During training, emphasis is on setting short term goals. Evaluation of these short term goals assess the tentative educational programme and allows us to redefine this programme into a more specific and determined educational programme. In doing so, our understanding of the resident increases.

Support will be given to participants who encounter difficulties in performing these activities to reach the determined short term goals or in dealing with other problems related to this method. Management receives support in coaching care-staff and therapists in their educational activities and in the use of programme evaluation procedures. Written directions are provided to all participants in the intervention programme and will be used both as a support by drawing up goals and as a reference. All goals are recorded in writing and are evaluated at a previously fixed date.

The Development of Individual Educational Programmes

The model implemented is aimed at determining and evaluating individual educational programmes for profoundly multiple handicapped residents. We do not suggest that we meet the needs of the individual because we develop an individualised educational programme. We will judge the effectiveness of the educational programme in terms of the ways we convey the meaning of educational goals. We want to move beyond the individual understanding of the profoundly multiple handicapped by development of an educational programme. This programme eliminates the differences in knowledge of and approach towards the individual resident between care-staff members and therapists, as it presents the appropriate context. This model is summarised in a diagram (Fig. 1).

As is shown in this diagram, we will use **experiential knowledge** as a basis for drawing up a perspective. Experiential knowledge of individual residents is primarily documented through and within the context of clinical practice. We do not limit ourselves to the patterns of behaviour of residents, we also need to acquire knowledge of the patterns of behaviour of the care-staff and the therapists. This knowledge will emerge in consultation with all professionals who are concerned with an individual resident. We use questionnaires, observations, analysis of documents

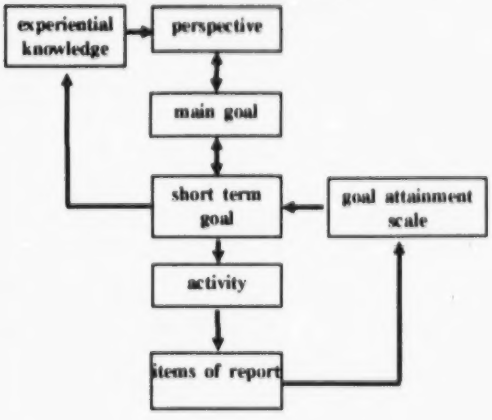
and interviews to be able to establish the nature of the educational care given at that particular time.

The next step is to draw up a **perspective.** A perspective means: to state a desired situation or development for a certain resident in the future. A perspective is a goal that should be valid for a period of about one to two years.

Especially when a resident is still young, ideas exist about his or her possibilities and future. Sometimes the desired situation in the future can only be stated in terms of prevention of decline. In any case, drawing up a perspective can only be established if based on an interdisciplinary approach that includes those professionals most closely involved with the resident on a daily basis. When a perspective is drawn up, experiential knowledge will be an important factor. In developing the intervention program, we have been able to design a questionnaire on educational care and on the characteristics of the educational environment (Vlaskamp and Van Wijck, 1992). These instruments are rather helpful in establishing a perspective. In most perspectives for profoundly multiply handicapped persons, emphasis will be on improving interaction and on identifying and understanding communicative behaviour. Perspectives related to cognitive development won't be feasible in most cases.

We have established a so-called "care-evaluation team" to be responsible for drawing up perspectives. Those professionals who have certain responsibilities towards the content and to the organisation of the educational care, serve in this team. Establishing such a team guarantees the increase of continuity in educational care.

Fig. 1: The model used to implement the intervention program



The third step is to draw up a **main goal.** The main goal is directly deduced from the perspective and is a joint goal for every professional concerned with the care for this particular resident. Of course, more than one main goal can be deduced from the perspective. Priority of main goals is vested in the care-evaluation team. A main goal is mostly drawn up for a period of 4-6 months. Similar to drawing up perspectives, a main goal can be achieved by a joint position of all the professionals concerned.

To draw up a **short-term goal** is next. Deduced from the perspective and based on the main goal, all professionals concerned will have to draw up short-term goals with which they can work for a short period of time. This short-term goal is considered to be a step towards reaching the main goal. In a short-term goal is stated what can be achieved within a period of 2-4 weeks.

The fifth step consists of an exact description of the **activity** needed to reach the short-term goal. This includes detailed information on the how and when and on who is to perform this activity. Details will be given on the context in which each behaviour, vocalisation or gesture takes place.

To draw up **items of report** regarding the performance of the activities is the sixth step. This can be viewed as a daily evaluation. Report on activities should take place in a way that provides an adequate overview of the course of the activity. Decisions on the progress of and choice for a next short-term goal depends largely on the recorded items of report.

The seventh step is drawing up a **goal attainment scale.** A goal attainment scale is very useful to verify if the goals stated are indeed attained. Although most evaluations rely on statements of objectives that involve measuring change in the target group as a whole, goal attainment scaling makes it possible to tailor goals to individuals within the target population. This scale uses relative rather than absolute measures (Rossi and Freeman, 1989). We use a four points

scale, which deviates from the regular goals attainment scale (Kiresuk and Lund, 1978). The zero position in the scale is used to indicate the initial stage, + 2 indicates the goal attained, minus 1 indicates a deterioration from, and plus 1 an improvement compared to the initial stage. The results can be summarised to provide a composite estimate of program impact (Kiresuk, 1973).

Next we carry the short-term goal into effect. At a previously set date we evaluate. **Evaluation** is the eighth and last step of the scheme. Evaluation of short-term goals means that report is given on the executed activity and is recorded if the short-term goal is achieved. Negative guesses about a behaviour or an event can prove to be as essential in the process of coming to understand the residents as a positive guess. An inaccurate goal can elucidate which goal is in fact important. Subsequently, a next short-term goal is chosen, activities and report points are stated, and a new goal attainment scale is drawn up.

Evaluation of a main goal means that report is given on the content of all short-term goals. By categorising all short-term goals, we know if the executed goals were aimed at achieving the main goal. For example, if a main goal is directed at communication, short-term goals should also be directed at communication. In viewing the course of the short-term goals, we will be able to establish if the main goal has been reached. Evaluation of a main goal must lead to the establishing another main goal, as a next step towards the realisation of the educational perspective of the resident. A value judgement of the perspective is based on the joint evaluation data on short-term and main goals. All evaluation data contribute to our understanding of and experiential knowledge on the abilities and the needs of the profoundly multiply handicapped residents.

Sometimes it is tempting to see evaluation (either of short-term or of main goals) as the last step. There are cases in which problems are conquered, or skills acquired, and care-staff are relieved and declare there is "nothing" more to attain. But "problem solving" isn't our conceptual framework, nor do we want to teach specific skills. Our involvement is directed towards a comprehensive understanding of the resident's interactions, to establish means of communication, to develop an individual educational program.

Our research has shown that, based on this intervention program, educational needs of profoundly mentally and physically handicapped become distinct. This leads care-staff to new understanding of the residents. Care-staff are challenged to learn from the resident in the context of their interaction. Communication between the resident and the care-staff improves. An educational program, applied by all professionals involved, develops gradually and becomes more and more specific. The employment of this program allows care-staff a certain degree of self management as this program generates information that can be translated into new goals and perspectives.

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Pathways to Adulthood for Young People with Special Educational Needs

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ABSTRACT: *This paper reports upon a retrospective study of a cohort of young people (n = 618) with special educational needs who reached statutory school leaving age within the Scottish education system in session 1986/1987. The study used a mixture of quantitative and qualitative methodologies. Data were gathered nationally using a standard reporting form. In addition, detailed case studies were carried out to gain illuminate data on the perceptions of the transition process for the young people and their parents or careers. Significantly different patterns in the transition process were identified for different disability groups, physically and/or sensovily impaired young people gained access to advanced post-school education; those with mental handicaps remained either in residential settings or on a repetition of work-training experiences; only those with social/emotional/ behavioural problems appeared to gain any employment. Issues which arise from this research focus on the nature of the transition process and the role which employment plays as a marker of successful transition for those with significant special educational needs.*

Introduction

While the transition from school to adulthood of able-bodied young people has been extensively researched (see, for example, Raffe, 1988; Furlong and Raffe, 1989), few studies have been carried out among those with disabilities. Is "transition" the same for them as for able-bodied young people? How can "adult status" be defined for these young people? How successful are they in achieving independence as an adult? This paper reports on the quantitative data from a study commissioned by the Scottish Office Education Department (SOED) which examined what happened to a group of pupils recorded as having significant special educational needs in terms of the Education (Scotland) Act, 1980 (as amended). The full study has been reported in Ward et al (1991). The research followed a cohort of school leavers (n = 618) with recorded special educational needs up to the age of 20+ years to look at patterns of transition.

One function of the research was to examine how "transition" for young people with special educational needs might be defined. In developed, industrialised societies, transition from school to adult life is an integral part of growing up, and is multi-faceted as well as attended by controversy. In examining the process of transition for young people with special educational needs, the researchers were influenced in their own thinking by the output from the Centre for Educational Research and Innovation (CERI) at the Organisation for Economic Co-operation and Development (OECD) whose interest in disabled youth in transition extends over a decade. CERI (1986) makes a useful distinction between "phase" and "process" aspects of transition: "The process aspect refers to the social-psychological development of the individual whereas the phase aspect refers to the pattern of services provided for individuals during transition. (p 15)" CERI (1985) also suggests

that, for young people with disabilities, transition is problematic; paid employment may be postponed indefinitely, and various youth-training strategies perhaps mask limited employment opportunities.

General Descriptive Data

The study cohort comprised 618 individuals, of whom 277 (44.8%) were female and 341 (55.2%) were male. This sex distribution differs significantly from that reported by Thomson et al (1989) and Goacher et al (1988) where a 3:1 ratio in favour of males was found. It is difficult to discern reasons for this, other than that it is a reflection of the rough proportions of the leaving population in any year from the Scottish educational system.

Though the majority of the young people had been known to supporting services for some time - a quarter of the cohort (159 or 25.7%) was identified as having special educational needs while at primary school - 140 (22.7%) were fifteen years of age, or over, before the recording procedures were initiated.

A feature of the data worthy of comment relates to the placements of the young people when they were recorded. The overwhelming majority of the population 495 (80.1%) were placed in special schools, including departments or units. Only a small minority 40 (6.5%) were in mainstream schools - a fact consistent with earlier observations, by the present writers, of the practice of recording.

One major focus of the enquiry was to track the progression of the sample at significant stages in their transition from school to early adulthood. Two significant transition points, determined by the researchers were the placements as at the attainment of the statutory school-leaving age (referred to as "Post 16+") and the first destination on leaving school (referred to as "First Post-school Destination"). Table 1 reports these data as descriptive tables giving overall proportions of young people at each of these transition points, and at their present known whereabouts. The term "Sheltered Contexts" includes adult training centres (ATCs), adult resource centres (ARCs), sheltered workshops, residential placements and hospitals.

The data reported in Table 1 highlight several features of the transition process, which partly directed the more detailed analysis reported be-

Table 1: Proportions of population in different settings at transition points

Placement	Points of Transition				Present Placement	
	Post 16+		First Post-school Destination			
	n	%	n	%	n	%
Continue at school	292	47.2	38	6.1*	38	6.1*
Special Further Education	63	10.2	116	18.8	49	7.9
Advanced Post-school Education (college/university)	5	0.8	15	2.4	13	2.1
Work Training	100	16.2	150	24.3	91	14.7
Sheltered Contexts (Workshops, ATCs)	67	10.8	173	28.0	201	32.5
Open Employment	18	2.9	30	4.9	54	8.7
Unemployment	25	4.0	26	4.2	39	6.3
Missing Data	48	7.8	70	11.3	133	21.5
Totals	618	99.9	618	100.0	618	99.8

low. First, almost half, 292 (47.2%), remain at school beyond the statutory school-leaving age, with 38 (6.1%) still in school at age 19+. Second, "Special Further Education" courses represent a significant option for young people at 16+, with 116 (18.8%) proceeding there as their "First Post-school Destination". A third feature concerns "Work Training " (WT) in its various formats. On leaving school at the statutory leaving-age, 100 (16.2%) of the population go on to such schemes; the number rises to 150 (24.3%) for whom WT is their "First Post-school Destination", and 91 (14.7%) remain on such schemes to the point where the data set was deemed complete, namely 30th June 1990.

An important feature of these data is the significantly low proportion of young people currently known to be in employment (n = 54 or 8.7%). These employments range from the skilled civil servant and craft apprenticeships, through semi-skilled occupations such as general factory assembly work, to unskilled labouring, domestic work, fish-farming and gardening work, with the majority in low-level, low-status occupations.

A further noteworthy aspect of the data set concerns the nature of the special educational needs of the population. The procedure used in an earlier study by Thomson et al (1989) was adopted. The researchers were interested in the factors associated with a pupil's special educational needs and whether or not these appeared singly, or in combination. The data sources were the Record of Needs and relevant documentation associated with each individual pupil. Such data are essentially "soft", given the sometimes idiosyncratic manner in which Records were drafted. Recent critical comment of the procedures adopted in England and Wales (Audit Commission/DES, 1992) makes a strong recommendation for clarity on what constitutes "special educational needs". Regrettably, no other data sources exist on the factors which give rise to a pupil's special educational needs. Despite this caveat, it was possible to compile a somewhat crude picture of these factors in the age cohort under study. Table 2 reports these data, from which two general points emerge.

Single contributing factors are relatively infrequent, although the group described as presenting "mild/moderate learning difficulties" accounts for a quarter of the population (n = 155).

Table 2: Factors contributing to special educational needs

Factors Contributing to Special Educational Needs	n	%
Single Factors		
Physical, Motor	18	2.9
Sensory	18	2.9
Mild/Moderate Learning Difficulties	155	25.1
Severe Learning Difficulties	29	4.7
Social/Emotional/Behavioural	22	3.6
Sub-totals	242	39.2
Multiple Factors		
Multiple Factors (including physical/sensory)	170	27.5
Multiple Factors (excluding physical/sensory)	206	33.3
Sub-totals	376	60.8
Totals	618	100.0

For the purposes of analysis, the multiply-impaired are dichotomised between those where a physical and/or sensory impairment exists, and those whose multiple impairments have no physical or sensory component. The latter group is the larger, with 206 (33.3%) of the sample so described. In the following section, transition patterns for those different sub-groups will be described.

Analyses of Emerging Patterns

The preceding section reported descriptive data on the study population, but the principal focus of the enquiry must be the career paths of these young people known to have special educational needs, with a view to discerning significant trends. Whilst Table 1 above, reports on the 618 pupils for whom a Record of Needs had been opened, obtaining detailed information on their immediate post-school destinations and present known whereabouts proved difficult in a number of instances. The present status of 133

(21.5%) is unknown to any of the agencies through whom the researchers conducted their follow-up enquiries. Various explanations are offered for this. The maintenance of data on young people with special educational needs varies from authority to authority. As young people progress from the relatively sheltered world of school, so they release their links with the authority and become "lost" as statistics; their post-school experiences become difficult to reconstruct.

Review of the relevant literature on transition for disabled individuals - for example May and Hughes (1985) - indicates that the supportive contact network, which helps youngsters to find initial employment, apparently breaks down when the young person leaves school. This is not to suggest that supporting services are deficient in any way in these individual cases - the young people may well have elected to become, and remain, independent. For whatever reasons, the attrition rate reduces the size of the data set to n = 485. In the detailed analyses of trends which follow in the next section, the "missing data" have been removed so as not to confound.

Although this reduces the sample size, there remains, in each instance, a substantial subset which enables meaningful statistical analyses to be applied. All data have been analysed using single-sample or multiple-sample chi-square tests as appropriate. In the tables which follow, Standardised Residual values greater than ±1.9 are statistically significant at or beyond the 0.05 level of probability. The sequence of the analysis is two-fold. First, the pathway from placement at statutory leaving age to present known status, is considered, with a brief examination of the relationship between initial and present placement. Second, the relationships between the factors contributing to special educational needs, as

Table 3: Relationships between placements at statutory school leaving age and present status

Placement at Statutory School Leaving Age	Present Placement													
	Special Further Education		Advanced Post-school Education		Work Training		Sheltered Contexts		Open Employment		Unemployment			
	n	SR*	n	SR	n	SR	n	SR	n	SR	n	SR	n	Comment
Continue at School	44	4.0	13	2.6	43	n.s	108	n.s	15	-2.3	4	-3.7	227	High probability of Special FE or Advanced Education
Special Further Education	3	n.s	0	n.s	20	3.1	16	n.s	7	n.s	4	n.s	50	High probability of Work Training (WT)
Work Training	0	-2.8	0	n.s	23	2.3	10	-3.8	18	3.3	19	5.2	70	High probability of Employment or WT higher probability of Unemployment
Sheltered Contexts	1	-2.3	0	n.s	1	-3.4	62	5.9	0	-2.8	2	n.s	66	Remain in Sheltered Contexts
Open Employment	0	n.s	0	n.s	1	n.s	1	-2.3	11	6.5	3	n.s	16	Remain in Employment
Unemployment	1	n.s	0	n.s	3	n.s	4	n.s	3	n.s	7	4.3	18	Remain in Unemployment
Totals	49		13		91		201		54		39		447	

*SR = Standardised Residual Value > ± 1.9 is statistically significant at or beyond the 0.05 level of probability.

identified in the Record of Needs, and progression from school to post-school life, are investigated. In reconstructing the pathways from school to present known whereabouts, the range of post-16 options was gathered directly from the Future Needs Assessment documents retained by authority psychological services. Table 3 reports the analysis made of these data comparing the placements as at statutory school-leaving age with the present status of the individuals.

Omitted from this analysis are 38 individuals known still to be attending school. Their inclusion would have a distorting effect on the distribution, although their continuance at school is, in itself, statistically significant at, or beyond, the 0.01 level of probability. These young people were being retained under the aegis of the Education Department because the relevant Social Work Departments had been unable to take over responsibility, either due to lack of appropriate provision, or lack of funding, or a combination of both.

Inspection of this table reveals interesting patterns of outcomes. Staying on at school is related to proceeding to advanced post-school education (including university or college courses) and entry to Special Further Education courses is, in itself, a logical outcome. Those who progressed from school at age 16+ into Special Further Education courses proceed to Work Training/Experience, thereby postponing entry to the labour market. Those who were placed in various Sheltered Contexts, such as sheltered workshops or adult training centres, or remained at home registered as disabled, remain in such settings. Those young people who left school and went directly to a work training/experience placement were more likely than many of the others to gain paid employment. However, for that same group, there was a higher possibility of ultimate unemployment. Those who obtained paid employment immediately after leaving school had a significantly greater chance of remaining in employment, although the low-level status of many of these occupations must be stressed.

Table 4 compares data on the present placement of these young people with their original placements. Two significant outcomes are observed, and these go in predictable directions.

Table 4: School placement in relation to current status (n=485)

Placement on Recording	Present Placement															
	Special Further Education		Advanced Post-school Education		Work Training/Experience		Sheltered Contexts		Open Employment		Unemployment		Still at School			
	n	SR*	n	SR	n	SR	n	SR	n	SR	n	SR	n	SR	n	Comment
Mainstream	3	n.s	4	3.6	7	n.s	8	n.s	4	n.s	2	n.s	2	n.s	30	Proceed to Advanced Post-school Education
Special Schools	41	n.s	6	n.s	80	n.s	157	n.s	39	n.s	32	n.s	30	n.s	385	
Residential Schools	5	n.s	3	n.s	4	2.1	26	n.s	11	n.s	5	n.s	5	n.s	59	Do not participate in WT/E
Hospital Schools	0	n.s	0	n.s	0	n.s	10	2.4	0	n.s	0	n.s	1	n.s	11	Proceed to Sheltered Contexts
Totals	49		13		91		201		54		39		38		485	

*SR = Standardised Residual Value $> \pm 1.9$ is statistically significant at or beyond the 0.05 level of probability

Those placed in mainstream proceed to advanced post-school education, whilst those who attended hospital schools are presently in long-stay sheltered contexts.

The transition from school to post-school placements (see Table 3) is of limited, although important, interest. Examining the data concerning the nature of the special educational needs of the population is more relevant. Here, two problems confront any researcher consulting the source documentation. First, whilst the data may be dichotomised between singly- and multiply-impaired individuals, it is not always possible to determine the impairing condition which led to the opening of a Record. Further, we repeat the comment made earlier concerning the "softness" of data on special educational needs. For those reasons, data on factors associated with special educational needs are treated in the following manner. Initially, data on single factors are examined. The next stage of the analysis considers the multiple factors, distinguishing between those where physical and/or sensory impairments existed and those where these conditions did not contribute to the special educational needs. In the former case, it was not always possible to determine from source documents whether or not there were attendant learning difficulties; thus a potentially important analysis was denied.

Complete data are available on the present status of 176 individuals where single factors existed. Table 5 reports the analysis, from which two noteworthy features emerge.

For those young people with physical/motor or sensory impairments, access to advanced post-school education is attained; a statistically significant group of four individuals remain presently in school. A second feature of the analysis is that those identified as having "severe learning difficulties" proceed to Sheltered Contexts, such as adult training centres and sheltered workshops.

Full data on the present whereabouts are known for 309 (63.7%) of the original 376 for whom multiple factors contributed to their spe-

Table 5: Present status of those presenting with single factors contributing to their special educational needs (n = 176)

Factors Contributing to Special Educational Needs (single factor)	Present Placement															
	Special Further Education		Advanced post-school Education		Work Training		Sheltered Contexts		Open Employment		Unemployment		Still at School			
	n	SR*	n	SR	n	SR	n	SR	n	SR	n	SR	n	SR	n	Comment
Physical/Motor	1	n.s	6	5.3	3	n.s	3	n.s	1	n.s	0	n.s	4	3.2	18	Proceed to Advanced Education or stay at School
Sensory	3	n.s	2	n.s	5	n.s	1	n.s	3	n.s	0	n.s	0	n.s	14	
Mild/Moderate Learning Difficulties	12	n.s	0	-2.3	33	n.s	26	n.s	18	n.s	12	n.s	5	n.s	106	
Severe Learning Difficulties	3	n.s	0	n.s	4	n.s	17	3.4	1	n.s	1	n.s	0	n.s	26	Proceed to Sheltered Contexts
Social, Emotional, Behavioural	0	n.s	1	n.s	2	n.s	4	n.s	4	n.s	1	n.s	0	n.s	12	
Totals	19		9		47		51		27		14		9		176	

*SR = Standardised Residual Value $> \pm 1/9$ is statistically significant at or beyond the 0.05 level of probability.

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cial educational needs (see Table 2). These data, dichotomised between those where physical and/or sensory factors contributed to the multiple impairments (n = 152 or 31.3%), and those multiply-impaired where no physical and/or sensory impairment existed (n = 157 or 32.4%), are presented in Table 6. No statistically significant findings are noted.

The extensive analyses on the nature of impairments of these young people enables us to chart their transition history from school attendance to the options taken up at statutory school-leaving age. Tables 7 and 8 report these analyses. Table 7 summarises the data (n = 618) on the initial placement of the young people, from which it is seen that mainstream schools are the significant placement for those physically and/or sensorily impaired young people with no other handicapping condition. Residential school placements represent the significant placement resource for socially, emotionally or behaviourally disturbed young people. These findings are consistent with earlier reports by Swann (1985 and 1988), Goacher et al (op cit) and Thomson et al (1989).

On attaining statutory school-leaving age, the options taken up reveal interesting patterns which are summarised in Table 8. In this table, full data are available for only 570 of the original population. Most young people whose multiple impairments include physical disability stay on at school. However, in the light of the small numbers involved in this category, the significant "advanced post-school education" finding requires to be interpreted carefully. Of greater importance, is the finding that those identified as having mild/moderate learning difficulties are the group who are likely to leave school and proceed to Work Training schemes.

The data were examined for sex differences, both in terms of nature of impairment and present known status, and no significant sex differences were found in either case, although, a male bias towards social, emotional and behavioural problems falls just short of the 0.05 probability level. A possible explanation of this might be derived from the classic epidemiological literature (Rutter et al, 1970) which suggests that boys with social, emotional and behavioural problems are perceived by adults as more problematic, especially in their adolescence.

These analyses represent the first attempt to plot, on a national level, the transition patterns of an age-cohort of young people with disabilities. The foregoing analyses may be summarised best by examining the transition pathways as shown in Figure 1.

Four significantly and phenomenologically

Table 6: Present status of those presenting with multiple factors contributing to their special educational needs (n=309)

Factors Contributing to Special Educational Needs	Present Placement														
	Special Further Education		Advanced Post-school Education		Work Training		Sheltered Contexts		Open Employment		Unemployment		Still at School		
	n	SR*	n	SR	n	SR	n	SR	n	SR	n	SR	n	SR	n
Multiple Factors (including Physical/Sensory	19	n.s	3	n.s	18	n.s	84	n.s	7	n.s	7	n.s	14	n.s	152
Multiple Factors (excluding Physical/Sensory)	11	n.s	1	n.s	26	n.s	66	n.s	20	n.s	18	n.s	15	n.s	157
Totals	30		4		44		150		27		25		29		309

*SR = Standardised Residual Value > ± 1.9 is statistically significant at or beyond the 0.05 level of probability.

Note: Data are available for only 485 of the sample, of whom 309 had multiple factors contributing to their special educational needs.

Table 7: Distribution of factors contributing to special educational needs by School Placements (n=618)

Factors Contributing to Special Educational Needs	Placement on Recording											
	Mainstream		Special School (Depts/Unit)		Residential School		Hospital School		Other			
	n	SR*	n	SR	n	SR	n	SR	n	SR	n	Comment
Physical/Motor	8	6.3	10	n.s	0	n.s	0	n.s	0	n.s	18	Mainstream is main resource
Sensory	4	3.0	7	-1.9	7	3.1	0	n.s	0	n.s	18	Mainstream & Residential Schools are main resource
Mild/Moderate Learning Difficulties	9	n.s	143	n.s	1	-4.0	1	n.s	1	n.s	155	
Severe Learning Difficulties	0	n.s	24	n.s	1	n.s	4	n.s	0	n.s	29	
Social, Emotional Behavioural	0	n.s	2	n.s	19	10.4	0	n.s	1	3.5	22	Residential Schools are main resource rather than Special Schools
Multiple Factors (Physical/Sensory)	16	1.8	134	n.s	19	n.s	1	n.s	0	n.s	170	
Multiple Factors (No Physical/Sensory	3	-2.8	175	n.s	24	n.s	4	n.s	0	n.s	206	
Totals	40		495		71		10		2		618	

*SR = Standardised Residual Value > ± 1.9 is statistically significant at or beyond the 0.05 level of probability.

different sub-groups emerge from the data set. These are respectively:

Figure 1. Pathways in transition

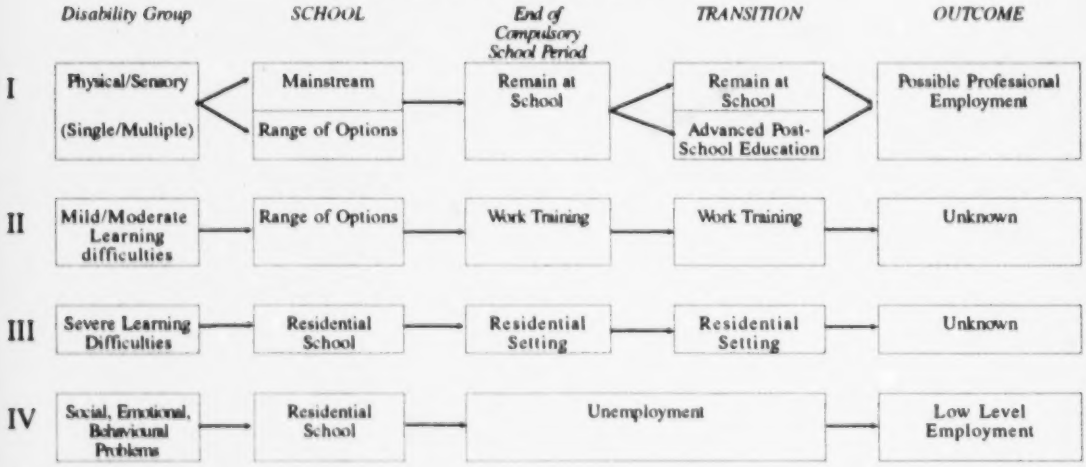

Table 8: Distribution of factors contributing to special educational needs on attaining statutory school leaving age (n=570)

Factors Contributing to Special Educational Needs	Placements on Reaching Statutory School Leaving Age															
	Continue at school		Special Further Education		Work Training		Open Employment		Sheltered Contexts		Unemployment		Advanced Post-school Education			
	n	SR*	n	SR	n	SR	n	SR	n	SR	n	SR	n	SR	n	Comment
Physical/Motor	14	n.s	0	n.s	0	n.s	0	n.s	2	n.s	0	n.s	3	4.6	19	Proceed to Advanced Post-school Education
Sensory	14	n.s	3	n.s	0	n.s	1	n.s	0	n.s	0	n.s	0	n.s	18	
Mild/Moderate Learning Difficulties	52	-2.2	15	n.s	49	5.1	7	n.s	7	-2.3	7	n.s	0	n.s	137	Proceed to Work Training rather than Sheltered Contexts
Severe Learning Difficulties	15	n.s	2	n.s	2	n.s	0	n.s	8	2.6	0	n.s	0	n.s	27	Proceed to Sheltered Contexts
Social, Emotional, Behavioural	6	n.s	1	n.s	5	n.s	0	n.s	2	n.s	3	2.3	1	2.1	18	Move into Unemployment
Multiple Factors (Physical/Sensory)	101	2.0	14	n.s	11	-2.6	5	n.s	26	n.s	4	n.s	1	n.s	162	Tend to stay at School
Multiple Factors (No Physical/Sensory)	90	n.s	28	n.s	33	n.s	5	n.s	22	n.s	11	n.s	0	n.s	189	
Totals	292		63		100		18		67		25		5		570	Missing (n=48)

*SR = Standardised Residual Value > ± 1.9 is statistically significant at or beyond the 0.05 level of probability.

- those with physical and/or sensory handicaps;
- those with mild/moderate learning difficulties;
- those with severe learning difficulties; and
- those with social, emotional and behavioural problems.

Each follows a statistically significant different pathway through the transition phase. These data are not capable of revealing differences in the quality of the post-school experiences of the young people in the age cohort, nor do the pathways described above, representing statistically significant associations as they do, necessarily indicate causal connections. The direction of causality can never be certain in dealing with such social data. The data in this study show that the attainment of independence through employment is not likely to occur for most young people with special needs before the age of twenty. Those young people who do obtain work seem to be disadvantaged by the low-level nature of employment gained. For the majority, prolonged transitional arrangements post-16 prevail - 362 (74.6) are in continuing training of some kind or in transitional placements. Is this a state of "eternal childhood" (CERI, 1988)? Such a concept suggests that persons with disabilities are maintained in a passive state as consumers of services. The social construction of disability argument would support this view. Hirst (1987),

reporting on his research with a group of young people with a wide range of special needs of a severe nature, expresses this fear thus:

.. the vast majority of young people ... can look forward to an occupational role which is both undervalued by and segregated from ordinary adult society ... they faced long-term dependence on the social security system, incomes close to the official poverty line, and low living standards ... they will have few opportunities to develop control over and responsibility for their own lives. (p 73)

The Nature of Transition

The data tell us that all but a handful of the young people are at various points in the continuum described by CERI (1983), and that different sub-sets of the population appear to follow different institutional pathways. Definitions of "successful transition" are difficult to determine, especially for those with special educational needs. All young people experience difficulties in effecting that transition from the supportive contexts of their families to some degree of autonomous adult status. For young people with significant special educational needs, these normal developmental processes are further compounded. "Autonomous adult status" is itself difficult to operationalise, especially for those with special needs, with no clear-cut agreement apparent amongst commentators.

The literature on transition generally stresses employability as a critical marker. In this study, the interview data, from almost all respondents, seemed to support the view that a job provided that avenue towards independence — social welfare benefits were seen as demeaning, stigmatising and no substitute for an income. How then do we view the role of employment for those with disabilities? Is it, or should it be, the central marker of adult status?

The growth of structural unemployment since the oil-crises of the 1970s has caused much concern, with regard to the transition of all young people. It is, perhaps, ironic that the issue of meaningful employment for young people with special needs has arisen at exactly the same time as the work situation in general has deteriorated. Many professionals in the area of special needs have been expressing the hope that the present downturn in demographic trends might release more opportunities. Although this is an optimistic possibility that should be fully exploited, it is perhaps dangerous to pin too many hopes on this trend as a universal panacea to problems of structural unemployment. Firstly, young people with special needs still will find themselves competing with other groups occupying marginal positions in the labour market. Secondly, if another recession is imminent, then the beneficial aspects of the demographic downturn might be wiped out. Thirdly, even if there is a shortage of labour, the demand for unskilled young people is likely to continue to diminish due to technological change. CERI (1983) states:

The idea that individuals can achieve reasonable status in society even if unemployed has yet to gain widespread acceptance. ... To add the objective of significant living without work to the other burdens of disability is seen as wrong and manifestly unfair. (p 17)

CERI further notes that low levels of state benefit represent a major drawback to seeking a meaningful existence without work. Even for those with the most severe special needs, the possibility of employment is seen as a desirable long-term objective, if not a "constant hope" (Seed, 1986).

A paradox clearly exists. On the one hand, commentators, professional and lay alike, advocate the necessity for paid work to facilitate independent living and enhance self-esteem. On the other hand, the reality appears to be that such a goal is difficult, if not impossible, to attain for the vast majority. This situation is further compounded by the ambiguity generated by the encouragement of employment as a goal for young adults with special needs within a context of structural unemployment where the reality is that jobs are scarce for the very population under study. To what extent do we, as professionals, raise false expectations? Such a question implies an essentially pessimistic view of the future for young people with disabilities; it implies an acquiescent acceptance that, for such individuals, the world of work is unattainable.

At issue is the question of how, as a society, we respond to the needs of those who are socially, occupational and economically marginal-

ised by virtue of their disabilities. It is a question of how we deploy resources to enable and empower individuals with disabilities to live fulfilling lives. "Disabled persons " as such do not exist. We must be ever mindful that we are dealing with human beings with specific, sometimes complex, needs. Whilst individual or collective responses are to be encouraged, it must be the duty of a society, through its government, to ensure the distribution of resources to enable dependent individuals to gain work or, if that should be impossible to achieve, not to be denied the financial support which allows for independence of living and that should take place, not in sheltered, segregated contexts, but in the normal world of everyday action and social discourse.

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People First

A Guide To Communication About Disabilities

Sticks and Stones
Can Break My Bones
But Names Can Peally Hurt Me

Language is powerful! It reflects, reinforces, and shapes our perceptions of people. Words which reflect positive attitudes and awareness help develop positive communications.

Words about disability have been strongly affected by legal medical, and political terms.

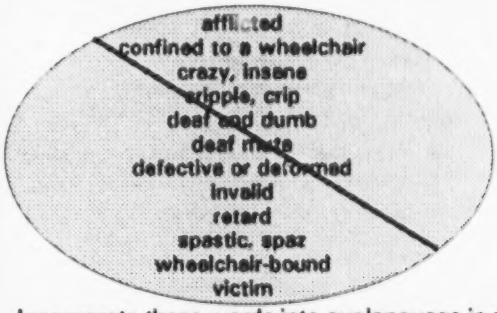
Consequently, our daily language is filled with technical terms which often do not convey our intended social message.

The suggestions found below are provided to improve language usage. Most suggestions are just common sense, but others are a matter of becoming aware of appropriate, current terminology.

Using the right words can make a dramatic difference!

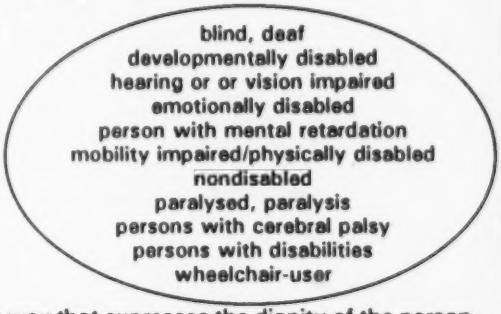
Inaccurate Terms and Expressions

These words and expressions have strong negative, derogatory connotations. Avoid using them and discourage use by others:



Preferred Terms and Expressions

These words and expressions are preferred and reflect a positive attitude toward people with disabilities.



Incorporate these words into our language in a way that expresses the dignity of the person.

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A Model for the Rehabilitation of the Developmental Retarded: the Small Group

Leena Heikkilä

ABSTRACT: Residents of the Ylinen Institution were studied during 1986 - 1991. The theory underlying the study is Learned Helplessness. During the first year an increase in the ability of independent living skills and a notable decrease in the occurrence of undesirable behaviour according to the Adaptive Behaviour Scale (AAMD) were recorded. During the following years there was a steady rate of development with no increase in the ability of independent living skills and no decrease in the occurrence of undesirable behaviour. It was possible to significantly reduce the doses of medication. 23% of original residents were either transferred to a more demanding developmental environment or to one more appropriate to their needs.

Like other groups that do not have power, the developmentally disabled have been variously defined. All the definitions emphasize the special characteristics of these people. In fact, however, there are more similarities than differences (Roren, 1977, 1979).

The developmentally disabled depends on the demands of a social system. A developmentally disabled person can be disabled in one system and normal in another (Timonen, 1986). Finnish law (1977) defines a developmentally disabled person as one whose development is arrested or disturbed due to an illness, defect or trauma which is either congenital or has occurred during the age of development.

At first, the law provided only normal services to the developmentally disabled. The law of services to Handicapped People was passed at a later date. Basically, it defines the subjective rights of the developmentally disabled to, for instance, housing and other services which fulfill personal needs, as well as the services of an interpreter. The law has had very little impact on services.

The individual needs of the developmentally disabled have hardly ever determined the nature of the care given to them. From the beginning of the 20th century to the post-World War II era, caregiving to the developmentally disabled meant they had to be out of sight so as to minimise the burden to society (Sociaalihallitus 11/1986). With urbanisation and industrialisation, the developmentally disabled became a social problem.

The development of care starting from institution-centered care in the late 1960s and moving on to open care in the 1970s has been described by Moberg and Ikonen (1980). The approach to rehabilitation in the 1980s emphasised both the individual and the community. Perhaps in the 1990s the target may be defined thus: the developmentally disabled person is a citizen in the

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area where he lives; he is in control of his/her life. In spite of this, the status of the mentally disabled in our institutions is far from achieving the role of a real citizen.

When the last intermunicipal institution was founded almost twenty years ago, institutional care was sharply criticised in both Finland and other northern countries. The problems of institutions were researched (Kylen, 1974, 1985: Saloviita, 1989), and the researchers found that the institutional environment had a detrimental effect, especially on infants and young children (Seligman, 1975: Matikka, 1991).

Psychic, social and physical integration and normalisation were the new ideas of the 1980s. Due to the development of open care, institutions were less important, and the system as a whole was approaching a crisis. The expectation was that by altering the living conditions inside institutions they would be closer to daily life. However, daily care used outdated methods and routines, and traditional hierarchies within institutions were maintained. Expectations and the reality of daily routines conflicted with each other.

Small-group activity was introduced in March, 1986, in 4 closed departments in 16 small groups at Ylinen institution. At the time a total of 136 developmentally disabled persons and a staff of 86 employed in the various departments were involved. When the final assessment was made in March, 1991, 95 of the original residents were still living in the small-group departments. Officially, the institution has 457 places, but in 1991, there were approximately 400 temporary or permanent clients. About 10% of the residents were temporary clients.

Small-Group Activity

With the introduction of the small-group activity, the nurses stopped going from one group to another, and began working in their own small group with their own residents. Previously, when they moved from one group to another, it would perhaps take them several weeks to meet with the same group again. This meant that the nurses were unable to become acquainted with the residents, and there was no real, lasting interaction between nurses and residents, and no good personal contact, and the nurses developed the attitude that they had no responsibility for the residents. Nowadays the staff meet only the residents of their own group.

Although as many as 7 to 10 residents were living in each small group, the groups were manageable, and the criteria governing the small group were still applicable. As distinct from the earlier system, the qualities of the small group could materialise even if the groups contained up to 10 residents (Eskola, 1975; Shaw, 1971).

Ward routines can become fixed in newly organised small groups as well, but the danger of old routines is diminished, and changes can be made more easily (Sonn, 1984; Saloviita, 1989; Heikkilä, 1989).

Learned Helplessness

Self-determination for the developmentally disabled and the model of power are independent from each other. The way our institutions use power appears to favour the authoritarian model of administration. There may be very few possibilities of self-regulation at the lowest level of institutional hierarchy (Kaipio, 1990). When the community functions well, meetings of the management group and other decision making bodies should be open to all (Murto, 1991). When employees are not allowed to attend meetings and actively participate in them, and have no experience of influence, they are not masters of their own lives and their work. They may then become objects, doing only what is most necessary, and no more.

The developmentally disabled are at the lowest end of the organisational hierarchy. They lack status and are dependent on the staff the same way the staff is dependent on the upper levels of the organisation. To be subjects, not objects, they have to pass through more stages than the staff. Researchers' findings are that the more independent the staff, the more do the residents stand a chance of becoming independent and learning to make decisions (Abrahamson and Soder, 1978). The staff have a better work morale when they have an influence on the decisions regarding their own work (Raynes, Pratt & Roses, 1979, 333).

It is easy to make decisions regarding the lives of the developmentally disabled. But when you make decisions you are the cause of their de-

pendence. Over protection and decision-making deprive them of the chance to develop. It encourages the development of learned helplessness. People in institutions have no possibility of exercising control over events.

Helplessness is a result of the perception that control has been irretrievably lost. Helplessness is a psychological state which frequently occurs when events are uncontrollable. Learned helplessness occurs when events are beyond one's control. A person experiences helplessness when he cannot influence events or the course of them (Seligman, 1975; Carver & Humphries, 1983). Learned helplessness occurs when the needs of a person are not responded to by someone. When a person is in a state of learned helplessness it is a case of disturbance of motivation, emotion and cognition. The person has the feeling that his responses are useless. When a child fails at school he may be forming the higher-order cognition that his responses are ineffective in general. A characteristic feature of these responses is their frequent recurrence when a reward is given to the child and, conversely, their failure to occur when the child is punished for the response (Seligman, 1975).

Earlier successes and failures influence people's personality. They have been researched in connection with people's need (Seligman, 1975; Schunk & Carbonai, 1944; Schultz & Hanusa, 1988; Ickes, 1988).

Everyone has occasionally met with situations that are out of one's control. What is the reason for this helplessness and inability to take control of new situations? When a mother responds to the needs of her child, she prevents the occurrence of learned helplessness of the child. When a child has had many experiences of response to his reactions, his sense of control increases. But when his parents resolve conflicts, or they remain unsolved, helplessness begins to increase (Seligman, 1975).

On the basis of this we can understand the large number of behavioural problems which arise in the developmentally disabled when they live in an institutional environment. When they tried to control situations positively they did not benefit from the attempt. However, they have a need for a feeling of control. When they develop disturbing behaviour they gain control of their surroundings and achieve the sense of control they wanted. Disturbing behaviour can be decreased when we increase the feeling of control by positive means whilst decreasing learned helplessness.

Brickman et al. (1982) describe different models of helping and coping. The important point is that we have to consider the client's responsibility for the problem and its solution. The feeling of adequacy is probably more effectively enhanced by models in which the person himself/herself is responsible for the decision. Therefore the developmentally disabled are taught to cope and control their lives and make decisions regarding their own affairs. Situations in which the developmentally disabled taste experiences of control are practised. If they have no skills, compensating abilities will be used to practice control (Peterson, 1989).

Intervention

Intervention was not so much direct influence but different options suggested to the staff to improve the quality of life of the residents and to increase their feeling of control. To give residents a sense of coping and control, daily activities and ward routine should be different from those used before the project got under way. We might call the principle "applied intervention" as soon as the nurse has assimilated it and is ready to put it into practice.

The staff should be allowed to make decisions regarding their own work. As we mentioned above, this will enhance the quality of their work morale (Raynes, Pratt & Roses, 1977). Therefore one target of the project is to consciously increase the autonomy of the staff. It was assumed that these principles would make the residents more independent and give them a feeling of control.

When the follow-up was begun, emphasis was placed on a sense of commu nity, cooperation and responsibility. To focus on these principles, the staff and the residents would hold meetings at which they would make decisions together and commit themselves to equality and fairness (Kaipio, 1979; Kaipio & Murto, 1980; Helenius, 1981).

We hope that the staff will adopt the attitude that the developmentally disabled should have self-determination and be auto nomous; conversely, they should not be the object of special care activities. Once they are no longer objects, but rather subjects, their quality of life is important to them.

When Allardt sets out the principles governing the quality of life he stresses unity and self-realisation; he emphasises local unity and family unity and political resources. Ojanen finds that self-esteem, acceptance of responsibility and duties, a sense of security and a supportive social environment are necessary (Allardt, 1976; Ojanen, 1986, 1988).

When a person becomes a subject, independence plays a very important role. One of the basic ideas underlying independence is rooted in a method called SIVUS. The method was first developed in Sweden, by Sophian Walujo. It involves the step-by-step development of skills. At first, the residents are helped by their nurses, but later they work independently or in groups. The method focuses on the small group and on voluntary participation. There cannot be any development without a target and a structure. The community must have a philosophy and principles on which to act. There has to be a daily program and division of labour. Those who make progress should feel that they are successful. In addition to participation in group work, privacy and a place of one's own - such as the corner of a room for a resident -are necessary. Each community chooses the ideas and principles best suited to its needs. The aim is to apply these ideas and principles in practice, that is, to change ward routines guided by theory. The researcher has suggested certain ideas, but their application to daily activity is determined by the preferences of the staff in charge of each individual small group. It was predicted that the learned helplessness of the deeply or severely developmentally disabled residents in the ward would decrease. However, the implementation of new ideas is an ongoing process, and new principles will be old to-morrow.

To sum up, the basic hypothesis is this: Independent living skills will increase, and undesirable behaviour will decrease during small-group activity. This means that learned helplessness will decrease. Fewer drugs will be administered. The people who have been living in closed or security wards for many years will move to a more demanding developmental environment or to one more appropriate to their needs.

Method

The AAMD Adaptive Behaviour Scale (Nihira et al, 1975) will be used in the follow-up. It consists of two different scales, one for independent living skills and one for undesirable behaviour. Each medication has its own coefficient. It is called Coefficient of Equivalence. The dosage of each medication for the psyche is multiplied by the given coefficient of equivalence. The dosage of each medical equivalence is added up. Each resident has his or her own dosage of medical equivalence. At the end of the follow-up we will be able to estimate how many residents have moved from the small-group wards.

Research Population

In February, 1986, 136 developmentally disabled persons lived on the research wards. 86 staff members worked there. At the end of the project 95 persons of the original research population lived on small- group wards.

Results

The Development of Rehabilitation of Temporary Residents

Temporary residents are usually cared for by their parents, live in the dormitories or are placed in families. Sometimes these people need temporary care at the institution. The reasons for coming to the institution are often educational and behavioural problems. Rehabilitation of those in temporary care developed more systematically during the follow up.

Before the project when temporary clients were cared on the wards, they were seen as extra trouble, and the physician, psychologist and social worker were mostly responsible for the plans of rehabilitation. The result of the system was that the staff did not want to commit themselves to the targets of rehabilitation.

During the project the aim was that the small group and especially the nurse would be responsible for both the permanent and temporary cli-

ents of their own. Because of this activity the professional identity of the nurses improved.

Nowadays the nurses meet the parents and the mentally retarded child or adult. The plan is made before the person's arrival by his "own" nurse on the ward. During the first period, which is about 1-4 weeks, the person will also be studied and observed by a doctor, a psychologist, a speech therapist, a social worker or a physiotherapist. Thereafter, at the end of the period, the parents, the client and the nurse, and if necessary, the previous special workers together make the plan for the following periods at the institution.

The new system had many consequences during the project. The parents were better taken into account, the plans for rehabilitation were better, there was more systematic attention to the matters and better follow up of the client. The small group is responsible for him even if he was not in institutional social care.

The People Who Left the Small Groups

We start from the assumption that before the small group activity on these wards the main idea was to preserve the skills and to care well. However, 31 persons or 25% of the original 136 residents left the wards, going home or to the dormitories (6%) or to other wards of the institution (17%). Seven percent of the residents died during the project. We must remember that all small group wards are so called closed or security wards with most people deeply or severely mentally retarded. That so many people gained enough skills to leave the small group is a little miracle. We can consider the number of persons who left the wards very good. The following table presents the skills of small group residents and of those who left the small groups.

The independent living skills differ significantly between groups. The people, who left the groups, have better skills. Undesirable behaviour was equal in both groups. When undesirable behaviour is divided into social and motoric problems according to Saloviita (1988), social problems do not differ significantly between groups. The small group residents have more motoric problems than the ones leaving. The ones leaving have greater diversity in independent living skills, in undesirable behaviour and in social problems, but in motoric problems the group of the ones leaving is more uniform.

Table 1. The skills of independent living and undesirable behaviour of the people in small groups (N=95) and those of ones leaving (N=31) in year 1991

		Small group	Ones leaving	T-test	Signific
Skills of independent living	x	96.0	132.5	2.94	0.005
	s	45.3	64.1		
Undesirable behaviour	x	42.1	39.5	-0.38	0.704
	s	26.2	34.1		

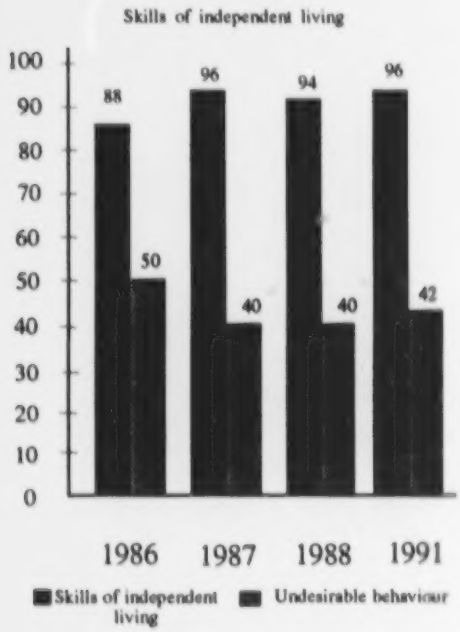
The Independent Living Skills of Small Groups

The greatest changes occurred in both areas of adaptive behaviour during the first year of the activity. The skills increased and undesirable behaviour decreased significantly (Figure 1 and Table 2).

During the four following years the skills did not increase and undesirable behaviour did not decrease, but they stayed at the level of 1987. However, between the years of 1986 and 1991, the skills in total had significantly increased and undesirable behaviour had significantly decreased. When we divide again the undesirable behaviour to social and motoric problems (Figure 2 and Table 2), we notice that social problems have decreased during the five follow up years but the motoric problems have not.

We can consider positively the fact that the skills of residents have not decreased after the first year of staff enthusiasm toward the new activity and rehabilitation. According to the staff one reason is that the ones leaving required the greatest efforts and was more rewarding to work and teach them because they learned more quickly. Therefore the other small group residents did not get so much effort at rehabilitation. This took the necessary resources of the nurses away from the permanent residents.

Figure 1. The average scores of independent living skills and undesirable behaviour of small group residents in years 1986-1991, N=95



It is noticeable that the skills of the residents on one of the four small group wards constantly increased during the five follow up years.

The people on the ward needed most of all support in their rehabilitation and at the beginning of the project they had the lowest ability in independent living skills on average.

The Use of Medication

The use of psychic drugs decreased significantly during the activity from the equivalent of 689 to the equivalent of 533 (Table 3). The greatest change occurred between the years of 1987 and 1991, when there were no significant changes in independent living skills or in undesirable behaviour.

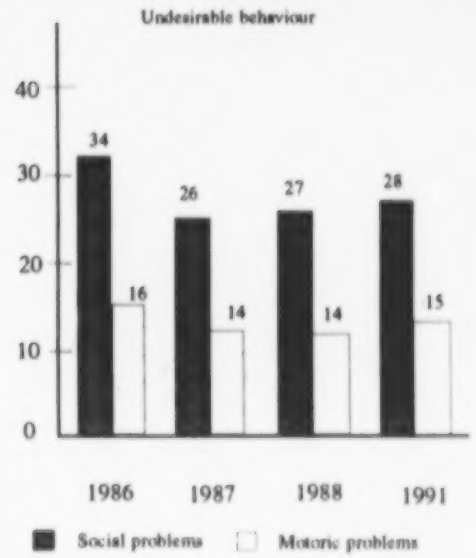
According to other studies, the undesirable behaviour increased during the first year of activity, as also occurred in this study and the residents needed more drugs in the beginning. The medication of women however, decreased also during the first and second year.

In the similar project in Rovaniemi the men responded also by the increase in the drugs (Heikkilä, 1992). Later the people were used to the new demands and the greatest decrease of medication occurred during the last three years.

Table 2. The statistical significance of averages of independent living skills and undesirable behaviour, social and motoric problems within small group residents in years 1987-1991

		1987	1988	1989	1991	T-test	Signific	
		1	2	3	4			
Skills of independent living								
	x	88.3	96.4	94.4	96.0	1-2	-4.78	0.000
	s	44.7	47.6	48.8	45.3	1-3	-3.29	0.001
						1-4	-3.80	0.000
						2-3	1.10	0.274
						2-4	0.26	0.794
						3-4	-0.96	0.338
Undesirable behaviour								
	x	49.7	40.2	40.5	42.1	1-2	3.33	0.001
	s	30.9	27.4	26.9	26.2	1-3	3.40	0.001
						1-4	2.55	0.012
						2-3	-0.13	0.895
						2-4	-0.89	0.377
						3-4	-0.67	0.507
Social problems								
	x	33.6	26.4	26.8	27.6	1-2	3.33	0.001
	s	27.2	23.7	24.9	22.6	1-3	3.02	0.003
						1-4	2.51	0.014
						2-3	-0.22	0.825
						2-4	-0.69	0.491
						3-4	-0.42	0.678
Motoric problems								
	x	16.1	13.8	13.7	14.5	1-2	2.08	0.040
	s	10.2	9.4	9.3	8.8	1-3	2.51	0.014

Figure 2. The average scores of social and motoric problems of small group residents in years 1986-1991 (N=95)



Hypotheses Which Were Supported

It was predicted that the independent living skills would increase and the undesirable behaviour would decrease during the activity. The hypothesis was supported. It was predicted that the amount of medication would decrease. This hypothesis was also supported. It was predicted that residents would be transferred to other wards or to the open care. The hypothesis was also supported. About a quarter of the residents moved away from the small group wards.

Discussion

The small group activity was introduced in four wards at Ylinen institution in February 1986. It is a follow up study of 1986-1991. In the beginning of the activity there were 136 residents of small groups and at the end of the project in February 1991, there were 95 of the original residents. It is question of the activity of development, which was spontaneously started by the staff in the working community. The basic assumption is of learned helplessness, which means that any activity has no influence on the course of events.

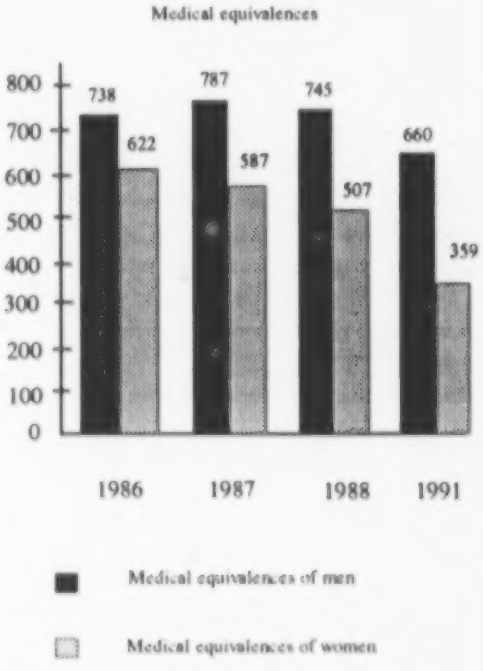
The target of the project was to increase the feeling of control of the mentally disabled people

Table 3. The statistical significances of the amounts of medical equivalences within small group residents in years 1986-1991 (N=95)

	1986	1987	1988	1991	T-test	Sign.	
	1	2	3	4			
Medical equivalences							
N	689.1	702.9	644.5	533.1	1-2	-0.20	0.841
S	760.1	806.4	774.0	727.9	1-3	0.70	0.485
					1-4	2.28	0.025
					2-3	1.14	0.259
					2-4	2.78	0.007
					3-4	2.43	0.017

and to prevent the occurrence of learned helplessness. In that case the people have an experience of self-determination and success and a

Figure 3. The average medical equivalences of men(55) and women(40)



feeling of control. The staff is more eager to acquire the experiences of control and self-determination for its residents if they themselves have autonomy in their activity.

To change attitudes the staff needs to emphasise the principles of quality of life, education of responsibility and cooperation, goal orientation and structure for becoming independent.

All the hypotheses were supported. The first hypothesis that the independent living skills increase and the undesirable behaviour decreases, was partly supported, for the undesirable behaviour decreased and the independent living skills increased during the first year of activity 1986-1987, but stayed on the level of the first year of development during the following four years. Fewer drugs were administered during the activity, the most notable decrease occurring during the last years of the activity. The medical equivalence of women however decreased during every year of the project. 23 % of the original people in small groups moved to other wards or to non-institutional social care.

There are, however, many matters in the need of improving on the wards of small groups. The residents need more privacy, possibilities of freedom and choosing, but they need also more emphasis on the use of a group and the community in rehabilitation.

In conclusion, we can argue that the small group activity is beneficial in decreasing the learned helplessness, undesirable behaviour, and the amount of medication and in rehabilitating residents to the next level.

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BRIEF REPORT

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Evaluation of the shift of responsibility from county to local authority for the education of intellectually handicapped in the city of Södertälje, Sweden.

Lena Thorsson

The main reason for changing the authority of the special school in Södertälje was ideological. The aim was to integrate the two separate organisations of the regular school and the special school, by placing them under the same authority. In doing this one wanted to promote the integration of the special education students.

This evaluation aimed at describing the process and effect of the local authorities take-over of the special school, with a focus on the cooperation between regular and special education classes, teachers and students. What was done to promote this cooperation? How was it received? What did the involved persons including students percieve as problems, how were the problems solved? How did the cooperation develop?

At the time for the evaluation Södertälje special school had 94 students in 16 special classes placed in 6 different regular schools. 10 special education classes were placed in 4 different regular elementary schools, another 4 special education classes in a regular high school and 2 classes with autistic students in a segregated school. There was one separate principal for the special classes, 55 special education teachers and teachers aids.

Method

A questionnaire was administered to 403 teachers and teachers aids at the six regular schools with special classes. This questionnaire focused on the information they had received in connection with the shift, on their knowledge of intellectual handicap in general, on special school and on integration.

Another questionnaire was administered to all the principals at the six regular schools in order to find out about their opinion first, of the shift, second, of barriers obstructing collaboration between special and regular classes, and last, about the possibilities they saw in an increased cooperation.

To get questions answered about the information and need of new knowledge as fully as possible other groups were interviewed such as politicians, social workers, psychologists, parents to intellectually handicapped, school nurses, administrators and the special education teachers and teachers aids.

3 schools were chosen for a closer study of the dynamics of the daily school life.

The teachers in 3 of the special education classes were interviewed at two occasions about their cooperation with regular classes.

Students in 3 special education classes and in 3 regular classes were given a questionnaire and also interviewed.

To find out about the student integration the interpersonal interaction of 21 special education students was observed during their morning and lunch breaks, which they had together with students from regular classes.

Results

The results show that just shifting the responsibility for the special school to the local authority does not by itself promote integration of the intellectually handicapped students into the regular school.

The experience from Södertälje show that the administrative and economical problems connected with the shift soon overshadowed problems connected with increasing the collaboration between the two schoolforms. As a result a lot of energy was spent on solving those problems, and less was spent on how to promote integration. The shift tended to become a goal in itself, and not one method among others to integrate intellectually handicapped students into society.

Information

Results from the questionnaires and interviews showed that a majority of the people involved did not feel that the information about the shift had been satisfactory. Special education teachers and teachers aids said that they didn't feel involved in the shift and that all decisions was made higher up. Some even said that they hadn't received any information at all. The administrators, the principals and the school nurses who were satisfied with the information had all been involved in discussions about what decisions to make. The administrators had been the ones giving information and they got thru to those they gave information,but they in turn didn't pass the information on.

A shift from county to local authority for the special education school is an extensive information process.Experiences from Södertälje stresses the importance of analysing the need of information at an early stage in the process of the shift. This includes defining the different groups that need information, as well as defining what particular need of information the different groups have and how to present it to them. It is also important to ensure that everyone involved in the information process is clearly aware of their own role in the information system. Newly employed personal experienced a lack of information which shows that information has to be given on a continuous basis. As to how the information should be presented results indicate that small groups are preferable.

Knowledge

The personal in special and regular education received some special training before the shift. The special training was given separate to each group. Afterwords it is easy to see that this clearly don't promote collaboration. One part of the special training contained information about intellectual handicap, integration, presentation of the parent organisation and delayed motor development. This information was given to the groups involved in the shift except the special education teachers and teachers aid.

The answers from interviews showed that many of those involved at the regular school wanted to know more about intellectual handicap.The two groups also expressed the wish for more knowledge about each other. Many of those involved expressed fear that the most important knowledge such as teaching strategies in special education should be lost in the organisational change.

What do they mean when they say they want more knowledge? There is surely an unsecurity in those who now are expected to cooperate. A lot of disinterest is probably an unsecurity on how to begin. Its easy to place the blame on time shortage, the students ability, that schedules don't match, not enough teachers aids and not enough knowledge. The teachers in the special education classes blame the disinterest on the teachers in the regular schools but at the same time admit that they themselves don't take part in common activities that they have been invited to. It also should be very easy to make contact for the regular school teachers with the special education teachers to learn more about the intellectually handicapped students when they work at the same school.

The main goal with the further training that was given could not have been to increase the

cooperation between the two groups. In order to develop an increased cooperation, knowledge about the school organizations, goal for integration and pedagogical methods among other things has to be transferred between the people involved. The lectures had been given only to one group at a time. To invite both groups to common information and further training is one way to offer possibilities to exchange knowledge, to new social contacts and to common experiences. What is even more important for the regular class teacher is to get experiences about intellectually handicapped students before they get further training. It would also be easy to use the special education teacher to give information which should increase the possibilities of new contacts and further cooperation.

Cooperation

Only 7,5 % of the teachers in the regular and the special education classes had any contact or cooperation with each other. Only 1/3 of the students had common breaks and common lunches. Organised cooperation had taken place only between two classes at one school. There had been cooperation almost everywhere at the administrative level, between the principals and social workers. There was very little cooperation during daily activities at four out of five schools. In one school there was a little bit more cooperation with the principals and another one had more cooperation on teachers level. In one school there was a lot of spontaneous cooperation at student level. In two of the five schools the special education teacher used the teachers room in the regular school. One teacher belonged to the working unit of the regular school. All common activities in the schools are planned in the working unit. By not participating the special education teacher has a lot fewer chances to find occasions for cooperating activities.

The teachers and teachers aid in the special education classes raised a lot of barriers not to cooperate with the regular classes, but no one mentioned their students intellectual handicap as a barrier. None of the schools had defined a goal for the integration. It was,however,a few teachers that were interested in developing cooperation.

All the teachers seem to lack knowledge about the integration process. The integration work would be a lot easier if one focused on the barriers and the possibilities, defined goals for the integration and worked with changing attitudes.

Though the subject of integration is of current interest and of great dignity the teachers college of special education in Stockholm does not focus on it as a separate subject. If the shift of the responsibility for the special education school shall lead to increased cooperation for the students, it seems important to put a lot more effort on information and further training beside organising cooperation activities in the schools. A lot more occasions for cooperation will probably occure if the two groups of teachers get to know each other and each others students.

Observations

Observations of the special education students showed that they spent most of the time during morning and lunch break alone without any contact with others. They had the most social interaction with classmates,a little less with the staff and least frequent was the social interaction with the students of the regular school.

The majority of the special education students social interaction was of very short duration. More than 80 % of the social interaction frequencies observed were 15 seconds or less. Barely 5 % were 2 minutes or longer.*

That the students in the three special education classes had so little social interaction with the regular students could probably be explained by their difficulties in establishing social contact without structured activities. The fact that none of these classes had had any structured activities with the regular classes was probably also a reason for the few social interactions.

Earlier studies of social interaction show that special education students who participated in structured common activities increased the social interaction during the lessons. Their social interaction during breaks did not increase that much.

Interviews

Most of the regular school students said it was okey to have the special education classes in their schools. Most of them had had lessons about intellectual handicap. Very few students

had visited the special education classrooms, but in spite of that, there had been some contact between the students. Quite a few had said something to the special education student and even been spoken to by them. The students who had the most suggestions on activities for cooperation were the ones who had had the most contact.

Overall Summary

The administrative decision to shift responsibility from county to local authority for the special education school did not automatically increase the cooperation on all levels. It has been difficult to reach the goal to increase the student cooperation. During the transition period not much has happened to make the special education students and the regular students an integrated unit. Most efforts have been put on administrative cooperation and it is only on that level changes can be noticed. During the shift period the goal was not achieved probably because the emphasis was on the transition. The first part of the goal has been achieved, but in the second part, the actual integration is were the road block is. First the special education teachers have to be made a part of the regular school system and then the students will benefit. (SIDA)

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Editorial

Psychomotor therapy is a clinical occupation for experts in physical activity, whose orientation derives from behavioural sciences as well as from medicine. It comprises diagnostic and therapeutic interventions with individuals who have physical or mental impairments. Psychomotor therapy utilizes movement as an instrument for physical, psycho-social and cognitive activation in both individual and group settings.

Psychomotor therapy is closely related to established disciplines as special education, psychotherapy, physical therapy, occupational therapy, dance therapy as well as to various relaxation and movement education techniques such as the Jacobson, Feldenkreis and Alexander methods. Psychomotor therapy is well know in Europe and is the subject of occupational programs as well as of postgraduate studies in countries including Belgium, France, Germany, Italy, Spain, Switzerland and the Netherlands. Several journals, particularly in Germany (Motorik) and in Spain (Psicomtoricidad), contribute exclusively to the body of knowledge in psychomotor therapy.

This issue contains a selection of six articles on psychomotor diagnostics and therapy, two of which concern diagnostics and four – intervention methods.

In the first article, *Hutzler* discusses aims, procedures and methods of diagnostic tools utilized in psychomotor therapy. In the second article *Simons* compares the psychomotor properties of three diagnostic tests for assessing psychomotor development in children. In the next article *Glaser* and associates present a survey conducted in Israeli Mental Health units, indicating various deficits in comparison with similar German institutions.

In the next three articles the rationale and methods of psychomotor therapy with individuals who have different psychiatric symptoms are discussed and empirically studied. *Van Coppenolle* and his associates were engaged with depressive clients, *Goris* and her colleagues – with anorexia nervosa patients, while *Bergman* and his associates examined the impact of a therapeutic program in a group of psychotic adolescents.

The three articles indicate the potential, but also the difficulties in assessing the impact of psychomotor therapy.

The three last articles included in this issue do not deal with psychomotor therapy but rather with educational aspects of developmental handicaps.

Arthur and his associates discuss both the literature and the results of an Australian survey on practices in communication intervention in cases of severe intellectual disabilities. *Reason* provides an overview on identification and incidence of specific learning difficulties (dyslexia) as well as on methods of psychological intervention. Last but not the least, *Vermeer* and *Dowes Dekker* present an experimental design for determining the learning potential of diplegic, hemiplegic, and orthopedically impaired non-CP children.

I believe that this issue will contribute to the theory and practice in the areas of psychomotor and related therapeutic techniques as well as intervention programs with special needs population.

Y. Hutzler

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Decision - Making in Psychomotor Diagnostics

Yeshayahu Hutzler

Abstract: This paper discusses aspects of psychomotor diagnosis both as a part of comprehensive developmental diagnosis and in mental health. Four criteria for decision-making in these two aspects are presented, namely: (1) the goal of diagnosis including screening, sorting and follow-up of examinees; (2) the object of diagnosis being either the performer or his physical and social environment, (3) the contents of diagnosis which may consist of the various ability factors or specific skills (e.g., developmental patterns or activities of daily life), and (4) the method of diagnosis comprising of observational diagnosis (Motoscopy), measurement of simple performance characteristics (Motometry), and sophisticated registration of movement qualities such as force, velocity, and acceleration (Motography). A flow-chart describing the diagnostic process, from the screening stage to the follow-up, is presented in order to demonstrate some of the main questions raised and their possible counterpoints.

Up-to-Date Developments in Psychomotor Diagnosis

Psychomotor diagnosis is a type of psychological assessment, which specifically examines the ability to perform motor tasks supported by emotional and cognitive processes (Hutzler, 1991; Cohen-Raz, 1972 [in Hebrew]). Psychomotor diagnosis is known since the beginning of the century and serves different areas of interest in the behavioural sciences. Two main fields of application of psychomotor diagnosis are discussed below.

Developmental Diagnosis and Psychiatry

Recently, developmental psychomotor diagnosis enjoys a renewed renaissance. Since the early studies of the Russian researcher Oseretzky in the twenties, numerous variations of test batteries of psychomotor diagnosis have been developed, serving today as an aid in comprehensive developmental diagnosis. A variety of instruments of this kind can be found in the textbooks on physical education in special education (Auxter & Pyfer, 1989; Seaman & DePaw, 1989; Sherrill, 1986). During the seventies, several batteries for developmental psychomotor diagnosis were also developed in Israel (Cohen-Raz, 1972 – for children of elementary school and later for children of kindergarten [in Hebrew]). An American test (the Purdue Motor Behaviour Survey), which is also known as the Kephart test, named after its main author (Roash & Kephart, 1966), has the most widespread use in Israel. The test was translated into Hebrew in the late sixties and is a major criterion for the many intervention programs in Israel aiming to treat children aged 5-14 with psychomotor disorders. Items of psychomotor diagnosis appear also in a battery for diagnosis and advancement in the preschool age (3-7 years) developed by Simpson (4th ed, n.d.).

Mental Health (Psychiatry)

Motor characteristics accompanying mental disorders are known in medicine since the beginning of the century (Kleist, 1908), and are also called soft neurological signs or Dyskinesia (Manschreck, 1989). Likewise, it is no secret that the mental characteristics of a person clearly reflect his motor behaviour in what is called "body language" (Argyle, 1975).

Notwithstanding this awareness, only a few diagnostic instruments were developed to serve the therapist for assessing involuntary motor disturbances (in Sprague, Kalachnik & Shaw, 1989; Manschreck, 1989), for motor diagnosis of psychotic adolescent individuals with psychiatric disorders (Apter, Sharir, Tyano & Wijsenbeck, 1978; Volwieler-Gunning & Homes, 1973) and for diagnosing psychopathological symptoms expressed in movement (Van Coppenolle, Simmons, Pierloot, Probst & Knapen, 1989).

The instruments described above in the two main fields of interest for psychomotor diagnosis (i. e., education for those inhibited and different in development and psychiatry) – were designed for use by various professionals: psychologists, physicians, occupational therapists and teachers of physical education. These professionals are generally integrated into frameworks of mental health stations, centres for child development, psychological and educational counselling services, special education, and in specific frameworks for psychomotor treatment.

In order to assist the professionals who utilize psychomotor diagnosis for the purpose of rendering their work more efficient, a few criteria for diagnostic decision-making are presented here as follows.

Criteria for Decision-Making in Psychomotor Diagnosis

The Goals of Diagnosis (What For)

Relying on the researcher Bös (Bös, 1987), who studied sport related diagnosis and the work done by Dunn and Fait (1989), who studied motor diagnosis in special education, three general goals of psychomotor diagnosis can be determined:

Screening of Examinees – establishing a goal value, which serves as a criterion for selecting participonts for a specific activity program. Those who succeed in achieving this value, could join, for instance, a selected team; those who fail in achieving it, may be entitled to a psychomotor treatment program.

Sorting of Examinees – is generally done by statistically determined tables of achievement, by which an exclusive intervention program, adjusted to the level of the personal psychomotor ability, can be carried out.

Follow-Up and Control – of the changes in the process of intervention is achieved by diagnosing before, during and at the end of the intervention program, to check whether the obtained results are positive. In case the follow-up diagnosis discloses no change in the patient's condition, a change of the intervention program or some of its contents have to be considered.

The Object of Diagnosis (Who, or What Is Being Diagnosed)

The traditional diagnostic approach relying on the Classical Test Theory, still dominating the psychology of personality, usually refers to the individual coping with his environment as the central object for diagnosis. Guided by this assumption the individual is tested on how he performs various tasks projected on him under more or less stable environmental conditions. In addition to this diagnostic approach, Pawlik (1976) suggests to deal with the different environmental conditions likely to influence the performance no less than the individual's traits. Therefore, it is

appropriate to diagnose the specific impact of each situation for its performance quality. It is known, for instance, that skilled sportsmen are liable to lose much of the performance quality when it is held under competitive conditions, compared to conditions of training. Soldiers are liable to err when the performance is held under fire, compared to a "dry" manoeuvre. Therefore, it is recommended to conduct tests in which performance is determined in a more or less "real world" situation. An example for such a test is the Motivation Test for Achievement in Sports (Raviv and Geron, 1992) developed at the Zinman College for physical Education.

The Contents of Diagnosis (What Do We Diagnose)

The issue of the contents of psychomotor diagnosis is one of the most complex in the exercise and movement sciences. While it is quite feasible to diagnose physiology of exercise on scales of ability derived from the sources of energy required for performance, to isolate such ability scales for psychomotor diagnosis is rather complicated. In the fifties, the sixties and the seventies, several researchers tried to pinpoint psychomotor ability scales, by the statistical method of factor analysis. (Cumbee, 1954; Fleishman, 1954; 1964; Cumbee, Meyer & Peterson, 1957; Ismail & Cowel, 1961; Vanderberg, 1974; Liemhon & Knapczyk, 1974).

The researchers used numerous diagnostic items (between 20 to 200), for a large population of hundreds to thousands of subjects, in order to arrive at clusters of tests with a common denominator called factor.

Table 1 details the factors suggested in several of these works:

Table 1: Psychomotor ability factors found by factor analyses

Names of Factors	Items	Names of Researchers
Control Precision Multi-limb Coordination Response Orientation Rate Control Reaction Time Arm-Hand Steadiness Manual Dexterity Finger Dexterity Wrist-Finger Speed Speed of Limb Movement	+200	Fleishman, 1964, 1972
General balance Balancing capability of objects Timing Hands speed Hands agility	21	Cumbee, 1954
General neuromotor coordination Motor control of the upper limbs Timing Dynamic balance	32	Liemohn and Knaczyk, 1974
Balance Motor control Motor integration	36	Vanderberg, 1974

Though the researchers didn't succeed in describing psychomotor traits which can be agreed upon in this way of factor analysis (Cohen-Raz, 1972 [in Hebrew]; Burton & Davis, 1992), neuromotor coordination is, without doubt, one of the major areas of psychomotor diagnosis. It is identified as the ability of the nervous system to execute muscular activity in an organized and adapted way for the designated goal, and for the given environmental conditions (Sudgen & Keogh, 1990). Several classifications of neuromotor coordination have been suggested such as:

- Coordination of large muscles (gross motor) as compared to coordination of small muscles (fine motor) (Cratty, 1973).
- Neuromotor coordination under time pressure, as compared to coordination demanding maximal precision (Roth, 1982).
- Coordination in "ballistic" and "explosive" perform – demanding an open loop control, as compared to coordination in a performance demanding

continuous tracking, and a closed loop control (Bös, 1987).

In addition, different divisions referring to the location of coordination processes should be mentioned:

- Visual-motor coordination (for instance, throwing to a target, catching a ball, hitting a ball);
- Bilateral coordination (for instance, walking, tieing up shoe laces);
- Multi-limb coordination (for instance, jumps to the distance and to the height, handing over a ball between the legs);
- Movement separation (i. e., performance of different movements with limbs acting in harmony, such as circling movements of the hands one forwards and the other backwards).

Balance is an additional important concept stimulating much study and research by scholars in physical education. This concept has various definitions. From the biomechanical point of view, it was suggested to identify it as the ability to keep the equilibrium between the forces acting on a body above its support basis (Horak, 1987). On the other hand, from the dynamic-functional point of view, it was suggested to define balance as a process keeping the postural relationship between the body and its surroundings (Reed, 1989). Table 1 shows some of the common classifications of balance. One such taxonomy was developed by Cumbee and his colleagues (Cumbee, 1954; Cumbee, Meyer & Peterson, 1957). It differentiates between general balance and the capacity of balancing objects with the hand or the leg when the body itself is stable. Other classifications deal with static balance and dynamic balance (for instance, Lidor, 1973), and, indeed, one can't find a developmental diagnostic battery which does not include items of balance in its framework. However, up-to-date approach for evaluating balance doesn't use these classifications, because they were found insufficient both from the statistical point of view as well as from the functional point of view. A comprehensive analysis carried out by Burton and Davis (1992) classifies aspects of balance according to three principles:

- Changing the body position above the support basis, for instance, from a static position (standing on one leg) to dynamic positions (walking beams or jumping), when the performer can observe his surroundings and prepare himself for motor control by feedforward. Gradual structuring of support bases in performance (for instance, walking beams of different widths, or the use of a hard basis as compared to a spongy basis) increases the level of difficulty in this context.
- Changing the body position above its support basis without preparation (for instance, by adjusted bending above the support basis). Here the performer has to use feedback control in order to correct the body's position when its balance is disturbed.
- Special importance has to be ascribed to the sensory sort of control used for mastering balance, similarly to the rest of the functions of neuromotor coordination mentioned above. Some motor tests structure gradual performance of sensory control with sight, without sight and even with distorted sight.

In addition to the effort to describe general abilities that provide a basis for deriving a range of specific skills, some researchers suggest to diagnose the target skills generally derived from the needs of the system in which the subject functions (e. g., school, workplace, activities of daily life [ADL], etc.). Batteries of this kind are common in developmental diagnosis (Ulrich, 1984; Haywood, 1988), in diagnosing persons with disorders in the motor system (Vermeer, 1992), and in psychiatric diagnosis

(Sprague, Kalachnik & Shaw, 1989). While the diagnosis of general abilities will generally be normative (i.e., in relation to a statistical sample of the target population and expressed by standard score tables or percentiles), diagnosis of the target skills will be either norm-referenced or criterion-referenced (i.e., in relation to the performance required by the system and generally expressed in a qualitative form). The criterion-referenced qualitative diagnosis will generally include scales relating to the extent of success in performance (for instance, succeeds fully, succeeds partially, or doesn't succeed).

Figure 1 presents items for diagnosing psychomotor maturity for school according to Simpson's test (4th ed.), aided by a computerised form, which we developed. The percentage of the performed tasks with full or partial success (the criterion is a full success in all the tasks), can be calculated immediately. The criterion for diagnosis is: succeeds fully=2; succeeds partially=1; doesn't succeed=0.

Diagnostic Means (How to Diagnose)

Psychomotor diagnostic means are usually divided into three categories expressing different degrees of the level of accuracy of the diagnostic results and, in inverted relation, various levels of investment in equipment and other diagnostic resources (Oseretzky, 1931; Doll-Tepper, 1989).

Motoscopy: means a sort of observational diagnosis, mainly impressionable observation of the psychomotor performance, and subjective evaluation by the observer of what is observed. This evaluation can be quantified by use of different scales and objectivated by additional observers. Examples of the diagnostic means of this kind are the Purdue Motor Behavior Survey (PMBS) developed in the United States by Roash and Kephart (1966) as well as the Loeven Observation Scales for psychomotor therapy (Van Coppenolle et al., 1989).

Motometry: this kind of diagnosis uses measurement of simple performance characteristics (i. e., distance, height, number of repetitions performed in

Figure 1: Computerised form for Simpson's motor maturity test

No: _____ Family Name: _____ First Name: _____
Year of Birth: _____ Sex: _____
Updating Date: _____
Strong Hand (SH)=: _____ Dominant Leg (SL)=: ____
Walking on hands and knees: _____
Walking forwards and backwards: _____
Running: _____
Standing long jump: _____
Jumping on one leg: _____
Walking on a board:-
Balance on one leg: _____
Throwing and catching on a ball: _____
Dribbling: _____
Skipping with alternating legs: _____
Rolling forwards: _____
Circles in the air: _____
Rolling backwards: _____
Crawl style swimming movements: _____
Opposite hand movements: _____
Total out of 30: _____ % of criterion: _____
Remarks: _____

given time, number of mistakes in given time, performance duration, etc.). The advantage of this method is its high level of credibility relatively to its simplicity and the possibility to use it with large populations in a relatively short time and without special instrumentation. The developmental test of Cohen-Raz (1972) is an example of such a diagnostic tool.

Motography: this sort of diagnosis utilizes precise diagnostic items used in biomechanics, such as: standing on a force plate for analysing changes in center of gravity; computerised sampling of video photographs or reflections of infrared light for measuring movement angles, ranges and speeds, measuring limb movement by an acceleration sensors, etc. One of the most interesting studies in psychomotorics aided by diagnostic means of this kind was carried out by Rothenburger (1988), who attached accelaration sensors to the belts of children suffering from attention deficit disorders and hyperactivity. They were compared to a control group of children without diagnosed disturbances. The test measured the quantity of acceleration records during periods of time where the children were required to sit quietly before and after physical activity. The findings showed clear differences between the two groups when the waiting time continued for more than a few (3-4) minutes. In addition to their accuracy, diagnostic means of this kind, might add detailed knowledge on specific aspects of the performance, for example, the range of movement and the number of its repetitions. This information is important in psychiatric diagnosis. In one occasion pathological motor characteristics (stereotypical involuntary movements) were tested by both professional observers as well as by motographic methods before and after a therapeutic program (Wallbott, 1989). The motographic method utilized sensors attached to the subjects, and their locations on a television screen were sampled and analysed by computer. The findings of the motographic observation, which were without change before and at the end of the treatment, assisted in refuting the observer's judgement. The latter was probably diverted by an unconscious expectation of the obervers that the treatment reveals positive results. Therefore, the judgements of the observers were inclined "to exaggerate in the quality of the subjects" performance at the end of the treatment.

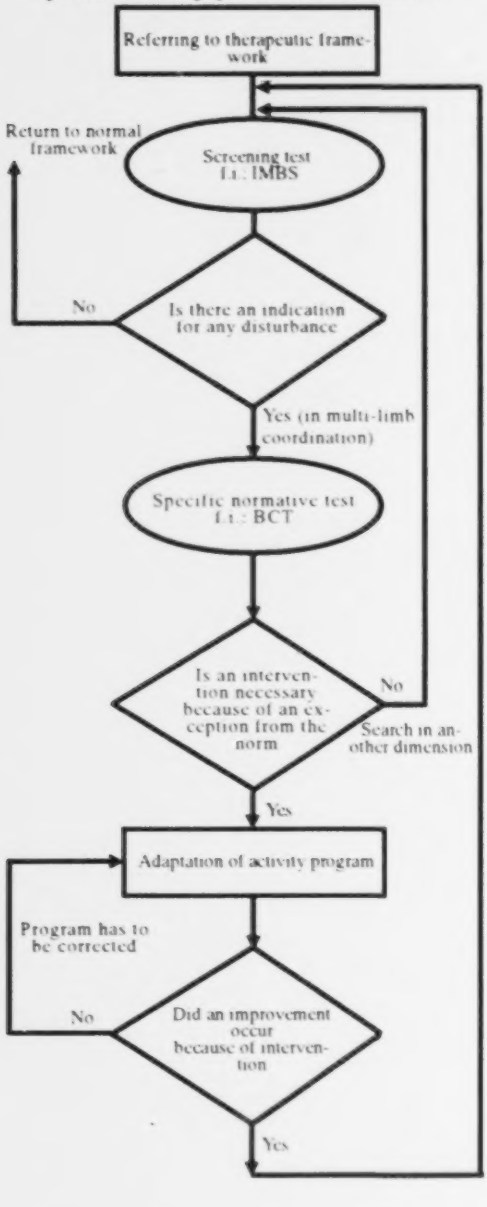
The Diagnostic Process

The variety of means and criteria for decision-making in psychomotor diagnosis, as described in this study, enables the professional to make sophisticated and precise diagnosis.

In Figure 2 a model for decision-making and use of various diagnostic means is described by using a flow-chart which indicates the process of referring a pupil to therapeutic physical activity, as well as the specific intervention process, applied. This chart includes several diagnostic intersections in which questions answered by specific diagnostic items are presented.

In the first stage, a primary screening test conducted, determining whether the pupil needs a therapeutic framework or he can be referred back to his normal framework. This stage is aided by Motoscopy, for instance, by the individual Motor Behaviour Survey (IMBS) diagnostic test (Arnheim and Sinclair, 1979) and facilitates the referring to treatment due to the disorders in a certain motor dimension, specifically, multi-limb coordination. Later, a detailed diagnosis of the pupil's capacities in the specific dimension by motometry is conducted to indicate the pupil's level in relation to the normative population. This procedure clearly indicates the developmental disorder or delay and its extent. Therefore, we use specific diagnostic items for the dimension detected as defi-

Figure 2: Flow-chart model of diagnostic processes and psychomotor treatment



cient. One of the outstanding diagnostic tests for pinpointing disorders in multi-limb coordination is the Body Coordination Test (BCT) developed by the German researchers Shilling and Kiphard (1974). If, indeed, it is found that the pupil needs therapeutic intervention, the activity contents will be determined, and after a defined period of time (for instance, three months) a repeated evaluation will be conducted. Aided by the repeated diagnosis, we assess the extent of influence that the therapeutic program has had on the performance in the deficient dimension. If no change is found in the pupil's capacities, it is necessary to develop a new intervention strategy. On the other hand, when the pupil's functioning in the specific dimension has been normalised, it is necessary to reevaluate through the screening test, whether there is a disorder in an additional dimension. If no such deficit is found, it should be concluded that the pupil can be referred back to a normal framework.

This is, of course, a model framework of the decision-making steps under ideal conditions. In reality, many additional factors such as budgetary considerations of the system, or, say, parents' pressures influence decision-making. Therefore, the psychomotor diagnosis is especially important, in order to give the therapist objective straightforward information. If the necessary resources are available, Motography is recommended in addition to the motoscopic and motometric information, increasing its thus accuracy and certainty, and facilidating the decision-making process in diagnosis and treatment.

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A new Organization Israeli Organization of Sport Therapy (IST)

Physical activity and sports have a long tradition as a therapeutic modality. A number of ancient Chineese and Greek carvings indicate that physical activities were utilized in the Antique for the treatment of various diseases. In Israel the development in this direction started during the 1940s with the establishment of the national sports club of the deaf, and further, during the war of independence, with the establishment of the for unit for rehabilitation of disabled veterans in the Tel Hashomer hospital. At this unit, the methods of the Stoke Mandeville hospital for rehabilitation of spinal cord injured were adopted, including the intensive use of physical activity and sports. A few years later the neuropediatrist Ralf Spira recommended to use sports as an assistive therapeutic method for developmental enhancement of children affected by the polio epidemic. His endeavors together with the financial support of the Ilanshil-Polio volunteers brought to the opening of the Israeli Sport Center for the Disabled in 1960, where thousands of disabled children acquired socialization into physical activity. Aquatics and swimming were among the main activities provided, together with track and field, basketball and archery. In 1973 the Home of the Veteran was established in Tel Aviv, becoming the main rehabilitation and leisure time center for disabled Israeli sportsmen and sportswomen who have participated with great success in international competitions for individuals with disabilities. During the recent 20 years further work was done towards the development of appropriate physical activity services for various populations with special needs such as those with mental retardation, learning impairments, visual impairments, emotional and behavioural disorders. In order to provide professionals coverage of these fields, minor specialization programs vere offered in special education (and related subjects) as a part of physical education studies at the Zinman College for Physical Education at the Wingate Institute (since 1970), as well as at the College for Movement and Education of the Kibutz Movement in Tel Aviv (since 1975). A few courses for coaches and instructors were also offered at the Coaches' Academy of the Wingate Institute as well as at the Hebrew University in Jerusalem. As a result of these instructional endeavors several hundred professionals with a background in physical education and sports are engaged in therapeutic activities with different populations (particularly those with physical, sensory, cognitive or emotional disabilities). About a hundred of this professional gathered together on October 15th., 1993 at the Isie Shapira Memorial Center for Developmental Disabilities in Raanana and decided to establish the organization of Israeli Sport Therapists (IST). This body is supposed to serve as a professional representative for its members, focusing on the following objectives:

- set minimum wage rates
- certify and grade professional qualifications
- develop professional enhancement courses
- seek grants for inland and overseers advanced studies
- negotiate with employers and institutions
- seek government recognition for professional qualification
- provide insurance for professional liability
- produce and distribute a newsletter
- organize biannual professional meetings and symposia
- maintain professional connections with comparable overseas organizations

Annual fare for membership in the new organization is 50 NIS and its postal address is POB 14001 Tel Aviv compiled by Yeshayahu Hutzler (PhD), Chairman of IST.

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Psychomotor diagnostics in psychiatrically disturbed children

Johan C. J. Simons

Abstract: *Motor diagnostics for children currently distinguishes between quantitative and qualitative diagnostic methods. The purpose of the research presented was to investigate the correlations between the Bruininks Oseretsky test of motor proficiency, the Body Coordination Test (Körperkoordinationstest für Kinder) both of them quantitative tests – and the Trampoline Screening Test – a qualitative psychomotor test.*

Introduction

Motor diagnostics for children currently distinguishes between quantitative and qualitative diagnostics. The concept of quantitative diagnostics and quantitative tests is relatively unambiguous in meaning. It is the measuring of a skill in standardised conditions that uses quantitative criteria such as time, number, etc., and which enables a comparison with a standard group. In other words, it is a normative approach of motor performances that enables the relative position of a child within a standard group, the so called norm-referenced tests (De Zeeuw, 1973; Doll-Tepper, 1989; Drenth, 1978; Kiphard, 1979; Rapp & Schoder, 1977; Seaman & DePauw, 1989; Vermeer & Blom, 1980; Werder & Kalakian, 1985).

The concept of qualitative diagnostics engeders less unanimity. Steffens, Semmers, Werder, and Bruininks (1987) consider qualitative tests to be procedures measuring qualitative changes in the basic motor system. Vermeer and Blom (1980) describe qualitative tests as tests showing relations with personality aspects such as neuroticism, social behaviour, way of reacting, organicity. The purpose of the test is not to obtain the information on motor development itself. For Pijning (1985), qualitative diagnostic is the observation of the nature of the deficiencies in the movement repertory, namely, the movement plan and the movement representation. Schilling (1973) on his part talks about "motorscopic" tests: the descriptive recording of movement and position characteristics. Safrit (1990) called those tests criterion-referenced. In those qualitative tests the performance of an individual is compared to a predetermined criterion or standard of performance for a specific behaviour.

When we deal with quantitative diagnostics, are joining the existing view: the measuring of motor skills and the possibility to determine whether a child is developing the skills expected for children of his or her age. Qualitative diagnostics for us is the use of instruments describing the movement behaviour in a standardized situation referring to a criterion. The purpose here is the inventorisation of the individual skills of a child.

Purpose of the Research

The purpose of the research is to investigate to what degree a link exists between the results of two quantitative psychomotor tests and a qualitative

psychomotor test. The research as such may be situated within the framework of a validity study.

We were interested in the intercorrelations between the Body Coordination Test for children (BCT) of Kiphard and Schilling (1974), the Bruininks Oseretsky test of motor proficiency of Bruininks (1978), both – quantitative tests and the Trampoline Screening Test (TST) of Kiphard (1979) a qualitative instrument. Our hypothesis was that there will be only a low correlation between the results of the quantitative and the qualitative diagnostic methods.

Method

Subjects

The subjects were 103 children from the department of child psychiatry of the University Clinics (head Prof. Dr. P. Igodt). Their age varied from 4.11 to 14.5. The average age was 9 years 3 months. This group consisted of 83 boys (81 %) and 20 girls (19 %). Not all the children completed the three tests.

Instruments

The (BCT) Body Coordination Test for children - Kiphard and Schilling (1974).

The BCT is a further development of the Hamm Marburger Körperkoordinationstest für Kinder (HMKTK) of Kiphard and Schilling (1974). It is an individual test for children from five to 14.11 years old.

The test consists of only 4 items:

1. backwards balance;
2. hopping over an obstacle;
3. sideways zigzag jumping;
4. moving sidewards with the help of two boxes.

The raw results are transformed into a motor quotient (MQ) (M = 100, SD = 15) per item, and for the whole test.

The factor analytic research on different groups of children with cerebral damage, behavioural disturbances etc., showed that one factor was at the basis of this test. This factor explained 87% to 98% of the total variance and was described as "general body control".

The Bruininks-Oseretsky Test of Motor Proficiency – (Bruininks, 1978).

This test may be seen as one of the most careful modifications of the original Oseretsky Test. It is an individual test for children from 4.6 to 14.6 years old. The test consists of 46 items divided into eight subtests.

The first four subtests measure gross motor skills and subtests 6, 7 and 8 – fine motor skills. Subtest 5 measures gross as well as fine motor skills.

The raw results were transformed into standard scores on the level of subtests, and on the level of gross, fine and total motor proficiency, into the composite standard scores (M = 50, SD = 10).

The factor analysis showed that the first factor explained 70% of the common variance and was described as "general motor development" (1978).

The Trampoline Screening Test (TST) - (Kiphard, 1979).

The Trampoline Screening Test of Kiphard is a further development of the evaluation technique in trampolining (Wiegersma, 1980).

Especially for the benefit of less experienced observers, Kiphard designed a simplified assessment system consisting of only eight items assessed on three qualities: inconspicuous, conspicuous and pathological (Kiphard, 1979). During trampolining those eight items are assessed on the basis of the three criteria. Later on, those qualities are converted into weighed scores.

The result is the sum of the weighed scores :

0-10 = disturbed coordination, pathological motor development;

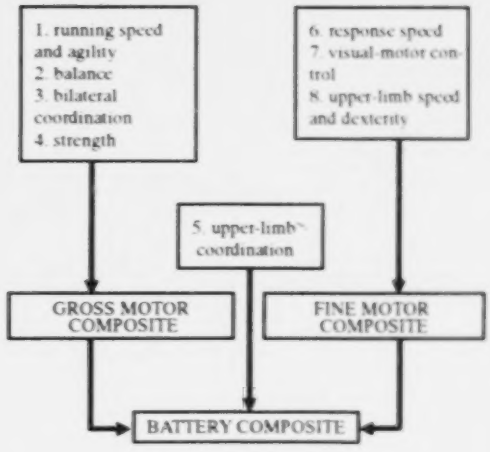
11-20 = weak coordination, deviant motor development;

21-30 = adequate coordination, normal motor development.

Procedures

To examine the correlation between the classification on the BCT and TST

Figure I: Structure of the Bruininks-Oseretsky test of Motor Development



and between the Bruininks and TST, a contingency chart for each was drawn up and a chi-square test and contingency coefficient (c) were determined. In order to examine the correlation of the results of the children on the BCT and the Bruininks, a Pearson-product-moment-correlation-coefficient was used in view of the nature of the data.

For the BCT, we started from the motor quotient (MQ) in order to obtain 3 categories:

- above -1 *SD* : normal;
- lower than -1 *SD* : minor disturbance;
- lower than -2 *SD* : major disturbance.

For the Bruininks, these categories were obtained starting from the composite standard scores for the entire test, the gross and fine motor composite.

For the TST, the categories of Kiphard (1979) were adopted. This way, the correlation between the classifications could be examined by way of a chi-square, and a contingency coefficient could be determined.

Results

The results were represented by means of contingency tables.

Table 1: Contingency table of the results of the TST and the BCT (N=101)

	BCT		
TST	normal	1 SD	2 SD
normal	18	8	7
deviant	13	23	15
pathology	2	3	12
Chi-2 = 20.74	Df = 4	p = 0.0004	c = 0.41

The comparison of the classification of the degree of disturbance according to the BCT and the TST provided a chi-square = 20.74, which was significant on the 1% level. The contingency coefficient was c = 0.41. This finding indicated a significant, though medium correlation.

Table 2: Contingency table of the results of the TST and the B total (N=88)

	BRUININKS TOTAL		
TST	normal	1 SD	2 SD
normal	20	6	3
deviant	26	11	8
pathology	5	2	7
Chi-2=9.91	Df=4	p=0.04	c=0.32

The comparison of the classification of the total Bruininks result and the TST provided a chi-square = 9.91, which is significant at the 5% level. The contingency coefficient was c = 0.32. Here, as well, we found a low correlation.

The comparison of the gross motor composite of the Bruininks and the TST provided a chi-square = 12.57, which was significant at the 1% level. The contingency coefficient c = 0.35. Here, likewise, we found a fare correlation.

The comparison of the fine motor composite of the B and the TST provided a chi-square = 10.81, which was signifi-

Table 3: Contingency table of the results of the TST and the Bruininks gross (N=88)

	BRUININKS GROSS		
TST	normal	1 SD	2 SD
normal	21	3	3
deviant	32	9	6
pathology	5	2	7
Chi-2=12.57	Df=4	p=0.01	c=0.35

cant on the 5% level. The contingency coefficient was c = 0.32. The conclusion was similar, namely, a minor correlation. There was a remarkably high frequency of inaccurate classification in each of these comparisons. Finally, between the BCT and the Bruininks respectively, we found a correlation of r = 0.76 for the entire battery, r = 0.79 for gross motor composite and r = 0.73 for fine motor composite. Each time, we could infer a high correlation.

Table 4: Contingency table of the results of the TST and the Bruininks fine (N=95)

	BRUININKS FINE		
TST	normal	1 SD	2 SD
normal	24	7	2
deviant	32	10	5
pathology	7	2	6
Chi-2=10.81	Df=4	p=0.03	c=0.33

If we compare these results to the scarce data from the literature, we see that Mechtild (1981) recorded a 46% correlation between the TST and the BCT, which is somewhat higher than our results. The results of the correlations between the BCT and the Bruininks were higher than those of Van Coppenolle and Simons (1984), yet lower than those of Vanderheyden and Simons (1984).

Table 5: Survey of data from the literature with regard to correlations between the TST and the Bruininks

TST and BCT Mechtild	1981 N=35	46%
BCT and Bruininks		
Vanderheyden and Simons	1984 N=123	Br. Total r=0.80
Van Coppenolle and Simons	1984 N=78	Br. Total r=0.59 Br. Gross r=0.57 Br. Fine r=0.57

Comparing the correlations of the TST with the Bruininks shows that the TST measures something other than motor development. The correlation of the TST with the BCT may be interpreted as medium. But the conclusion is the same; the TST measures a gross body coordination partially only. Thus, in seems that the qualitative test (TST) is not a good alternative for a quantitative tests such as BCT or Bruininks.

Discussion

The results of our study show that, in accordance with our hypothesis, the instruments used do not measure the same thing. The results of the qualitative instrument (TST) are not a suitable alternative to the quantitative tests. The correlations are not high enough and the classifications, according to the degrees of disturbance, show a lot of incorrect placing. In our opinion, this means that good assessment should include a combination of quantitative and qualitative evaluation of the child. The obtained results may be dependent on the particular study population, namely, children with neurodevepmental disorders. Although data from literature confirm our figures, further research is needed to determine whether the trends remain and whether our results may be generalized.

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People First

A Guide To Communication About Disabilities

Sticks and Stones
Can Break My Bones
But Names Can Really Hurt Me

Language is powerful! It reflects, reinforces, and shapes our perceptions of people. Words which reflect positive attitudes and awareness help develop positive communications.

Words about disability have been strongly affected by legal medical, and political terms.

Consequently, our daily language is filled with technical terms which often do not convey our intended social message.

The suggestions found below are provided to improve language usage. Most suggestions are just common sense, but others are a matter of becoming aware of appropriate, current terminology.

Using the right words can make a dramatic difference!

Inaccurate Terms and Expressions

These words and expressions have strong negative, derogatory connotations. Avoid using them and discourage use by others.

~~afflicted~~
~~confined to a wheelchair~~
~~crazy, insane~~
~~cripple, crip~~
~~deaf and dumb~~
~~deaf mute~~
~~defective or deformed~~
~~invalid~~
~~retard~~
~~spastic, spaz~~
~~wheelchair-bound~~
~~victim~~

Preferred Terms and Expressions

These words and expressions are preferred and reflect a positive attitude toward people with disabilities.

blind, deaf
developmentally disabled
hearing or or vision impaired
emotionally disabled
person with mental retardation
mobility impaired/physically disabled
nondisabled
paralysed, paralysis
persons with cerebral palsy
persons with disabilities
wheelchair-user

Incorporate these words into our language in a way that expresses the dignity of the person.

Prepared by The Institute on Disabilities
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Physical Activity in the Mental Health Services: A Survey on the Existing Situation and Needs for Development

Jorge Glaser, Yeshayahu Hutzler, Miriam Popper

Abstract: In this study a descriptive analysis of physical activity in Israeli Mental Health units was performed. The analysis was based on questionnaires filled out in 40 wards sponsored either by the government or by the Health Fund of the General Workers Association in Israel. Although the findings indicated that about 60 percent of the units included physical activity in their therapeutic program, only a few had sufficient or professional personnel and appropriate facilities for implementing this activity as a useful therapeutic method. Comparing this findings with the situation in Germany revealed large differences in favour of the Germans who usually have sufficient gymnasiums and professional staff and thus are able to incorporate a more sophisticated and efficient psychomotor treatment.

Introduction

Following many publications about the role of physical activity as a therapeutic tool in mental health (Hutzler, 1990, Glaser & Mendelberg, 1989; Kirkcaldy & Shephard, 1990; Kirkcaldy, 1989), a survey was conducted in order to examine the situation and the Israeli needs in this field.

The survey consisted of a questionnaire including 16 questions. The respondents had to note their association with the facility or its vicinity that enabled physical activity as well as details pertaining to the person in charge of the activity and to budgetary sources for it. In addition, the respondents were requested to specify their interest in increasing the activity, or in including it in the unit. Finally, details were asked about the fields in which a contribution to the patients is expected, and about the extent to which caregivers in the unit participate themselves in sports.

The questionnaire was sent to 41 services facilities throughout the country. 40 answered questionnaires were received. Therefore, the findings represent the situation in the Mental Health services in Israel at the end of 1989.

Findings in Relation to the Existing Situation

The findings of the survey have been based on the analysis of the 40 returned questionnaires and supported by deschiptive statistics.

Physical Activity

According to the respondents, some level of physical activity exists in 62.5% of the units. In 55% of the units regular physical activity takes place and in 10% of them, irregularly. In 37.5% of them no physical activity exists at all.

The physical activity usually consists of half an hour sessions once or twice a week. In most cases (92.5%) it takes place in group form and in 85% of the

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units on a regular basis. The activity frequently includes only morning exercises.

Patients' Participation

Participation is mostly voluntarily (62%) and in some cases, obligatory (18.5%). However, from the answers it becomes clear that only a small part of the patients participate in physical activity.

Facilities and Equipment

The facilities which can be utilized for physical activity are very basic and include a bare yard - 40%, a hall (without facilities for sports) - 30%, a court (enabling sports activity) - 27.5%, and a physiotherapy room - 10%.

10% of the units have a sports center in the vicinity. The possibility of using it was not examined.

In those units where physical activity exists, the equipment includes mainly tables for table-tennis (47.5%), equipment for ball games (40%), mattresses (40%), and Swedish benches (17.5%).

The Staff

The person in charge of the activity was generally a certified sports instructor (51.8%), but only 14.8% of those are listed on a sports instructors' norms list. It is not clear if any of these instructors followed any training for their activities in mental health. The rest of the operators are members of the nursing staff (29.6%), occupational therapists (14.8%), unprofessional volunteers (7.4%), and physiotherapists (3.7%).

The person in charge of the activity is mostly a regular worker (77.7%).

According to the respondents, they don't have budgetary sources enabling them to allocate norms for physical activity.

In most units only a few caregivers are engaged in physical activity at leisure time. In 25% of the units more than half of the caregivers are engaged in physical activity at leisure time.

Findings in Relation to Needs for Development

Amount of Activity

In 72% of the units in which physical activity is performed a desire for increasing the activity beyond the existing framework was indicated. In about 69% of the units in which physical activity doesn't yet exist, a desire to engage in it was recognizable. In other words, about 70% of the units are not satisfied with the existing situation in this field, and are interested to include or increase the physical activity in the institution.

The Essence of the Activity

29% out of all the respondents see the role of physical activity as an additional tool of treatment and rehabilitation, and only 16.1% view it merely as an entertaiment.

The Goals of the Activity

The respondents' opinion about the fields in which the physical activity could contribute to their patients match those of the professional literature.

Eight goals which were mentioned by more than 10% of the respondents are:

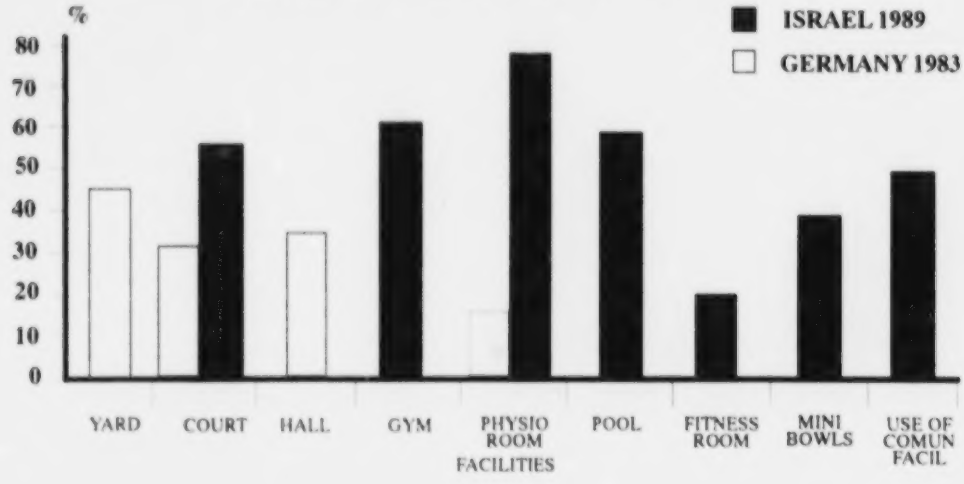
1. Improving self-image (48%)
2. Preventing physical decay (31%)
3. Relief, calming, self-control (31%)
4. Social interaction (17.25)
5. Physical fitness (17.2%)
6. Learning of skills (17.2%)
7. Pleasure (13.7%)
8. Occupation at leisure (10.3%)

Discussion

The data gathered in this survey, shows that any instructed physical activity existed in the year 1989 in only about one half (55%) of the institutions for Mental Health in Israel and only a small part of the patients in these institution participated in this activity.

The facilities and the equipment found in the institutions for mental health are largely very basic, including, in the best case, a court enabling sports activity (27.5%), and mostly a bare yard (40%) or a hall, which isn't suited for sports purposes (30%). Comparison of these

Figure 1: Sport facilities in units for mental health



data to the situation in Germany (see Figure 1) reveals an enormous gap. In a survey carried out by Deimel (1983), most units in Germany had standard sports halls, or at least, physical training rooms, which are lacking in Israel. The scarce equipment (e. g., tables for table-tennis, various balls and benches), doesn't allow sophisticated and exclusive activities for persons with psychiatric disorders.

None of the instructors was trained specifically for this task, and only a few of them were occupied in a standard job (14.8%). Most instructors (51.8%) are qualified in physical education and sports and only a few of them qualified in the paramedical professions. A com-

Figure 2. Specialisation of physical activity instructor

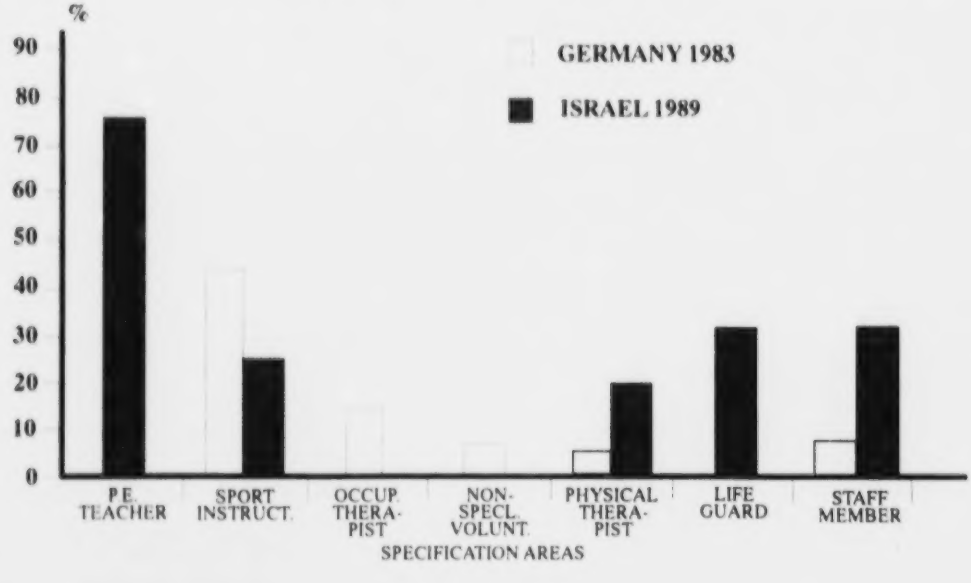
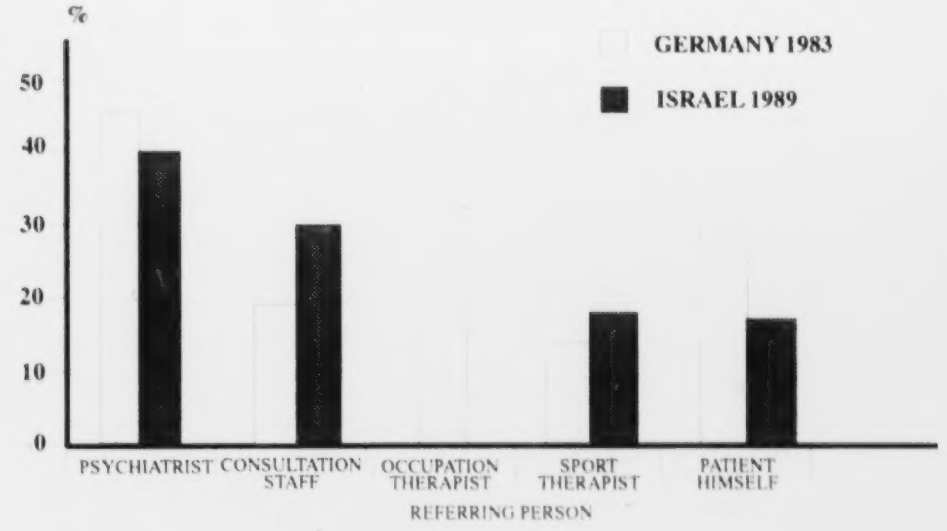


Figure 3: Person referring to physical activity



parison between the situation in Israel and the situation in Germany is presented in Figure 2.

The respondents of the questionnaires view physical activity as a much valued tool of treatment. Especially, for improving the self-image (48.2%), for preventing physical decay, caused due to the degenerating influence of anti-psychotic medication (31%), for relief from frustrations, for gaining self-control, for calming (31%), and for social interaction (31%). This contrasts with the inadequate training of most instructors providing physical activity, lack of resources, and scarce equipment serving this goal.

The lack of therapeutic physical activity in the Mental Health units, except for a few extraordinary cases, is quite understandable. This is particularly severe, because 81.5% of the referrals for activity in sports are from members of the professional caregivers' staff. In Germany, where the situation of referrals for treatment in sports is quite similar to the situation in Israel (see Figure 3), the sport activity is directed towards considerable parts of the patients' population and includes essential therapeutical contents (Deimel, 1983).

Recently two valuable programs in this field were implemented in the Abarbanel Mental Health Center. The first program included intensive planned and controlled activation in children and adolescents' ward during three weeks, with five weekly activation sessions. This activity is described in detail in this volume (Bergman et al., pp. 39-53). The results of that study indicated that an essential improvement had occured, at least in some behavioral dimensions. The second program was a sports day for the whole population of the hospital, in which about 250 patients from all wards and their caregivers participated. During this day, an alert participation and a capability of concentration and activity, at a level seldom found among hospitalized mental patients, was observed. Additional evidences for the success of physical activity in reducing the severity of mental illness and dosage of medication, was indicated in the programs held in the "Eitanim" hospital and in the

community reported by Glaser, Brown and Lerner (1988). Based on the vast international body of knowledge in the field and rather scarce Israeli experience, the authors concluded that there is an urgent need to (1) establish a special trend of proficiency (graduate or post-graduate) on this subject in colleges of Physical Education, (2) to integrate Physical Education instructors among the regular staff in mental health services, and (3) to allocate funds to adjust rooms or buildings as sport and physical activity facilities, as well as to purchasing the required equipment.

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Psychomotor Therapy in Depressive Patients

Herman Van Coppenolle, Guido Pieters, Jan Knapen, Jozef Peuskens

Physical exercise has been put forward as an effective low-cost strategy with minimal dangerous side-effects, which may be used alone or as an adjunct to the traditional forms of treatment for depressed patients. In this article, we will first shortly review the literature on the benefits of exercise for the treatment of depression, with special reference to measures of physical fitness. Various hypotheses of mechanisms mediating the antidepressant effects of exercise are discussed in light of present knowledge. Then, we will describe an individualised, structured physical training program. Implemented in a rehabilitation ward for non-psychotic patients in the University psychiatric hospital St. Jozef in Kortenberg. Finally, we will discuss some preliminary findings of a pilot study on the effect of this program on depressed patients.

Review of the literature : Exercise intervention in depression

In general, depressed patients are sedentary and rarely participate, on their own will, in physical activity. They have reduced physical work capacity but normal pulmonary function compared with the general population (Martinsen, 1990). This indicates that the reduced fitness level in these patients is caused by their physical inactivity and could be seen as an argument for integrating physical fitness training into a comprehensive treatment program for depression. This finding is consistent with studies of exercise habits, showing that most patients are sedentary when seeking treatment. However, none of these studies tells us anything about casual relationships. Do sedentary and less fit subject become depressed because they are sedentary, or do depressed patients become sedentary and less fit because they are depressed, only future research can tell...

In spite of the small number of studies, and the methodological shortcomings in many of them, it is striking that the results in all studies about exercise intervention in depression lead to the same conclusion. Aerobic exercise is more effective than no treatment, and is not significantly different from other forms of treatment, including various forms of psychotherapy. This indicates that aerobic exercise is associated with an antidepressive effect in patients with mild to moderate forms of depression.

The studies comparing aerobic and nonaerobic forms of exercise strongly suggest that increase in physical level is not a necessary precondition for the antidepressive effect. Reductions in depression scores may be achieved by various forms of exercise, not necessarily the aerobic form (Martinsen, 1989).

Interaction of exercise and other forms of treatment is another important aspect. In one study the combination of exercise and counselling was found to be more effective than counselling alone (Rueter, 1982). Martinsen (1989) found a significant increase in therapeutic effect when exercise was added to a general hospital treatment program. The combination of exercise and cognitive

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therapy, however, was not significantly better than either of the two used alone (Freemont & Craighead, 1987). Thus, the results are divergent, indicating a need for more studies.

The interaction of exercise and medication is of particular interest, as the use of tricyclic antidepressants is the most widely used treatment method for depression. This has been addressed in two studies; while one study showed no better outcome in patients who were on tricyclic antidepressants (Martinsen, 1987), the second study indicated a non significant trend towards better outcome for those who used medication in addition to exercise (Martinsen, 1989). Thus, there may be an additional effect in combining the two, but it does not seem to be large.

Depressive disorders have a great tendency for relapse. The value of self-administered strategies like exercise is, therefore, highly dependent on the degree to which patients continue with the activity after termination of the training programs. One to two hours aerobic exercise per week is necessary to maintain aerobic capacity in trained individuals (Polloch, 1978).

Adherence rates in psychiatric populations do not seem to differ much from those in other populations. In the Danish studies, more than half of the patients continued with regular exercise one year after termination of the training programs. Thus, physical exercise programs seem to have a lasting effect on exercise habits in a large proportion of depressed patients. Moreover, those who continue with regular exercise, tend to have lower depression scores than the sedentary ones, but the strength of the correlation between exercise adherence and depression scores is unclear.

Studies (Martinsen, 1989; showed that patients evaluated physical fitness training as the most important element in the comprehensive treatment programs. It was ranked above traditional forms of therapy: psychotherapy, milieu therapy and medication. Although these results of course do not prove that physical exercise is more effective than other forms of therapy, they do show that patient appreciates physical fitness training as part of comprehensive treatment programs.

The mechanisms mediating the beneficial effects of exercise on mental status are unknown, but various hypotheses have been put forward. Several biological changes accompany exercise, and some of these have been forwarded as explanations for the antidepressive effects.

One explanation has been the temporary increase in body temperature, which accompanies intensive exercise, the so called pyrogen hypothesis (Morgan, 1984). It has been demonstrated that plasma catecholamine concentrations at a constant exercise intensity are lower following endurance exercise training (Cousineau, 1977). Lymphocyte B-receptor activity also is reduced as a result of aerobic endurance training (Gordon, 1983). An increase in circulating B-endorphin concentrations appears to occur with endurance exercise (Carr, 1981; Howlett, 1984). An increase in the concentrations of monoamines in the brain also has been postulated to accompany aerobic exercise (Ransford, 1982).

It is important to note that empirical evidence linking these biological phenomena to depression is lacking. As explanations of the antidepressive effects associated with exercise, they must be considered as hypotheses.

Based on the limited data available, if the psychological benefits of exercise have a biological basis, then it is sustained aerobic exercise that most likely will provide the necessary stimulus (Haskell, 1987). Findings that the same psychological gains were found to accompany non aerobic as well as aerobic exercise are indirect arguments against the biological hypotheses. This opens

up the field for psychological mechanisms, like mastery (White, 1959), self-efficacy (Bandura, 1977) and distraction (Bahrke & Morgan, 1978).

Clinical experience indicates that the individual differences in the therapeutic response to exercise are great. For some patients exercise seems to be very useful, while in others the psychological benefits are minimal. The identification of patients responding especially well to exercise might be an important topic for future research. In one study (Martinsen, 1989) two factors which predicted long term treatment response were identified. Those who had received no previous psychiatric treatment and those with previous adult experience with exercise and sports were doing well at follow-up. The first factor is unspecified. The second factor, however, is more interesting, as it may be exercise-specific. This is a finding which needs to be replicated in studies to come. (In our study, we carefully inquired about experience with exercise and sports in our patients).

The identification of the effective elements within exercise is another topic of interest. One study focused upon objective measures of physical work capacity, finding that increases in physical fitness were not essential for the anti depressive effects (Martinsen, 1989). What the effective elements of exercise intervention are, is still unknown. However, the most probable candidates are the patient's subjective experience of altered fitness state, rather than the objective fitness level, changes in self-concept, body image, experiences of mastery and group cohesiveness.

The identification of potentially effective elements is important. (More precise knowledge about this will make it possible to emphasize these factors in the practical training, and thereby enhance the therapeutic effects).

Research hypotheses

According to the foregoing discussion, we come to the following hypotheses:

1. Depressive patients are characterized by

- bad physical fitness;
- negative body attitude;
- negative perception of physical skills;
- negative feeling of general competence;
- lowered self-esteem.

2. A significant improvement of physical fitness leads to improvement of mood, a noticeably more positive body attitude and perception of physical skills.

3. A cognitive behavioural model of depression can account for these changes. Physical training promotes a transformation or disruption of the maladaptive cognitive set a person had previously used to face the world. Physical exercise results in the formation of a more positive, internal attribution of achievement, which then restructures the individual's hierarchy of self-perceptions and self-evaluations.

4. This process increasingly reinforces an awareness that success and mastery are linked with goal achievement and self-competence through effortful, purposefull behaviour. Consequently, maintaining physical fitness (through sustained training) leads to a significant improvement of the feeling of self-efficacy and self-esteem.

The physical fitness program

A structured and individualized psychomotor program, using fitness training as an antidepressant strategy, was implemented in a rehabilitation ward for non-psychotic patients in the University Psychiatric Centre St. Jozef in Kortenberg (Belgium). In this ward, 34 patients are treated. Mean age is 35

years, mean duration of stay is five and a half months. About half of the patients suffer from chronic affective disorders, that don't seem to respond to the usual pharmacological and short-term psychotherapeutic approaches in the short-stay admission wards.

The goals of the program were as following:

- improving objective and subjective fitness;
- reducing feelings of anxity and tension;
- providing experiences of success, there by improving self-image;
- teaching patients to search actively for solutions;
- assisting people with lower verbal skills;
- preventing recurring depression.

The program combines power and endurance training. Three times a week, during ten weeks, one hour each time, which is spent bicycling, walking or running and different power exercises.

Important principles in the practical application of the program were as following:

- training intensity of 60% to 80% of maximum capacity must be reached in order to achieve results;
- providing experiences of success by setting concrete and achievable goals;
- reinforcing mastery behaviour by social appreciation through the display of the therapist and fellow-patients;
- recording the progress and the patient's evaluation of his own performance.

After 10 weeks, patients were asked to come for a weekly maintenance session until discharge, and were encouraged to participate in sports activities outside the hospital as part of their re-socialisation program.

Pilot study

A pilot study was set up to evaluate the effects of this program and as a preparation for a later controlled study.

Inclusion and exclusion criteria

The subject group of this study consisted of hospitalised patients who, in the DSM III-R, were classified under "depressive disorders" with subcategories "major depression" (296.2X and 296.3X), and dysthymia (300.40; both the primary and the secondary type). The patients involved in this research underwent careful medical screening. Patients with a history of cardiovascular disease, or those suspected of having such a disease, were excluded from the study. Patients with acute psychotic symptoms were also excluded. Only patients with a score of 16 or more on the Beck Depression Inventory (BDI) Scale were included.

17 patients were included, ten males, 7 females. Three dropped out of the study, all males. One refused to continue the program, two left the hospital against medical advice, for reasons probably not related to the program. The results refer to 14 patients. All had an axis II DSM-diagnosis.

Mean age of the patients who completed the program was 37 and a half year (sd=7.3). All patients received antidepressant medication for more than 6 months. Almost all had received several antidepressants.

Method

Prior to initiation of the physical activity program, the base-line of the participants was determined. A neutral test administrator used the following methods for psychological and physical evaluation:

Questionnaires:

- Beck Depression Inventory (BDI);
- Baardman's Body Attitude Scale: This scale is used to determine whether there is a link between a negative

body experience and the way the patient feels when alone or in company;

- a movement experience questionnaire wich, inquires about the patients experience with sports or physical activity;
- The Utrecht Coping List (UCL). This instrument is intended to establish how the subjects react in general when confronted with problems or situations that require adaptation;

Three different tests were used to analyse the physical condition of the participants:

- The Léger test, wich is a progressive maximum exertion test. The maximum oxygen capacity V02 is derived from the duration of the exertion (running back and forth at a given pace until one feels he cannot go on anymore);
- the Astrand test, wich is a standardized sub maximal exertion test, that measures the heart rate during 10 minutes on an ergometer bike to estimate the maximum oxygen intake capacity of the subjects;
- the Eurofit battery, wich is used to evaluate the motor capasity of the patient (nine items).

Evaluations were made before starting the program, after five weeks and after 10 weeks (the end of the program). A follow-up is planned six months after completion of the program, both of the patients who will remain on training as of those who will terminate the program.

Results

We saw a significant decrease of BDI-scores from 22.4 to 11 from pre- to post-test.

On the UCL, there was a significant increase in the use of "active strategies". Other strategies (i.e., avoiding expression of emotions, reassuring thoughts, etc.) were not significantly changed. A significant (negative) correlation was found between BDI-scores and use of "active strategies" on UCL pre and post.

On Baardman's Body Attitude Scale, there was a significant decrease of negative body attitude, with a significant decrease on subscales of negative body appreciation and body attribution. These results seem to be related to the experience of competence, positive self-esteem, satisfaction about bodily characteristics and decrease of feelings of solitude.

On the physical side, we saw a significant increase of the maximum oxygen capacity, as measured by the Astrand test, and in a number of items of the Eurofit battery (running and arm force, which were trained during the program).

We didn't find a correlation between BDI-scores and V02 max on retest, nor between BDI-scores and (negative) body attitude pre- and post-test.

Discussion

A structured, individually tailored physical training program was implemented in a rehabilitation ward for non-psychotic patients. In a pilot study, some encouraging results were found. Patients taking part in the program improved significantly on measures of depression, body appreciation, use of active strategies in solving problems, arm force, running speed and maximum oxygen.

A controlled study is planned to try and confirm some of these findings on a larger sample of depressed inpatients.

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Body Experience and Body Composition in Anorexia Nervosa Patients

Marina Goris, Herman van Coppenolle, Michel Probst, Walter Vandereycken, Jozef Peuskens

Abstract: *This paper describes a study conducted with 43 women suffering from anorexia nervosa. Its objectives were to obtain preliminary information concerning the therapeutic efficacy of a specialized physical activity program on their body experience and body satisfaction, and its relationship to body composition in these women. Video distortion technique was used in order to assess body experience, and a Body Attitude Questionare (BAQ) examined body satisfaction. The post therapy results indicated a significant decrease of the underestimation of body measures compared to the on-admission scores. Further, body fat mass increased in 59%, while the fat-free mass in only in 41%. However, the ideal image after therapy didn't show correspondence with the actual body measures. The mean BAQ dissatisfaction score decreased significantly ($p < .05$). Thus, a general positive therapeutic effect of the specialized program can be indicated, while trainig of muscle masss should probably be emphasized to a greater extent.*

Introduction

Disturbed body experience is generally considered to be a central element of the anorexia nervosa syndrome, and it is even mentioned as one of the four diagnostic criteria in the *Diagnostic and Statistical Manual of Mental Disorders* (3rd ed. rev.; DSM-III-R; American Psychiatric Association, 1987).

According to Bruch (1974), the disturbance of body experience has both perceptual and affective components. Studies of body perception in anorexia nervosa, however, report both overestimation and underestimation of body measures, which nevertheless do not differ significantly from estimates made by control subjects. Furthermore, these studies never refer to body composition, which, logically, appears to be an important element, because it can affect body satisfaction and perception. Nor has body experience been studied both before and after a therapeutic program.

Therefore, we started up the present study examining body experience (i. e., body perception and body satisfaction) and its relationship with body composition. Secondly, we wanted to in-

Table 1: Mean, standard deviation and range of age, height, weight, percentage of fat mass, and fat-free mass (FFM) assessed with densitometry of anorexia nervosa patients on admission (N=43)

	Mean	SD	Range
Age (years)	22.8	5.7	12.8-37.6
Height (cm)	162.6	7.2	140.0-178.0
Weight (kg)	39.7	6.2	23.4-52.1
Fat mass (%)	12.2	5.4	4.3-28.8
Fat mass (kg)	5.1	2.9	1.2-4.3
FFM (kg)	34.9	4.2	22.2-43.3

vestigate the effects of a therapeutic programonbodyexperience.

Method

Subjects

The subject group on admission consisted of 43 women with a diagnosis of anorexia nervosa, whose age, height and weight are presented in Table 1.

The subject group which was re-evaluated after a therapeutic program consisted of 21 patients. The mean duration of hospitalisation days was 159 (*SD* 22; range = 117-184).

Procedure

Body experience was assessed by a perceptual method, a variant of Meermann's video distortion technique (Meermann, 1985), and by a self reporting instrument, the Body Attitude Questionnaire, which examines body; mage satisfaction (Van Coppenolle, Probst, Vandereycken, Goris & Meermann, 1990).

The video distortion technique can be described as follows: A video camera was linked via video recorder to a colour monitor. Using a potentiometer in the monitor, a distortion (widening as well as narrowing) of maximum 33% could be achieved. The extent of the distortion was displayed by a voltmeter.

Camera and monitor were placed at 250 cm from the subject.

A dummy, which was used as a lifeless control object during the estimation session, was placed upright at 250 cm from the camera and 200 cm from the subject. The subject stood dressed in a black bikini against a neutral background, so that no reference points to clothes or to the background could be used during the estimation task. The subject could turn a dial to widen or narrow her image on the monitor. The subject could see her undistorted image only during the introductory instructions. The subject was given four tasks. For the first two tasks she was asked to adjust the thin/fat body image in full frontal and full profile positions, respectively, by turning the dial until she thought it reflected her real image. In a third task she was asked to estimate a dummy in black bikini. The purpose was to check whether the subject showed a more general perceptual disturbance or poor estimation abilities. Finally, in the last task, the subject was asked to adjust her own frontal image on the screen until it reflected what she thought would be her ideal image. For each of these four tasks, subjects were asked to perform six trials, at random, alternating between trials initially with a thin image and trials with initially fat image. The composite score was the sum of the six trials.

The Body Attitude Questionnaire (BAQ) consists of 20 items which examine body satisfaction. The maximum score is 100 and the higher the score the more dissatisfied the subject is with her body.

The items that are scored on a 5 point scale deal with the attention to the body size, the familiarity with the own body and the confrontation of the body appearance.

Body composition was measured with densitometry techniques (Goris, 1984) which uses an underwater weighing technique for measuring the body density of each individual. Simultaneously, residual lung volume was measured by the helium dilution technique. In the body density calculation, a correction of 115 ml was made for the gastro-intestinal tract gas volume (Goris, 1984). Percentage of body weight as fat was calculated by application of Siri's (1956) equation: % fat = (4.95/density -4.50) 100.

The psychomotor program, which was developed by a multi disciplinary team, tried to influence the disturbance of the body experience. Because the body and movements are the main tool of this form of therapy, it offers great possibilities. Through confrontation with and awareness of the body, it attempts to alter the negative body experience into a more positive attitude. The movement

situations consist of relaxation and confidence-improving exercises, non- verbal expression, body-oriented, sensory awareness and social skill exercises.

Table 2: Comparison of the composite score of the four tasks with the score of the undistorted image (100%) prior to intervention

Estimation	Mean	SD	t
frontal position	96.5	8.3	2.75*
profile position	93.1	9.0	4.99**
dummy object	91.6	6.3	8.69**
ideal image	99.2	13.5	0.38

Note: A mean of 100 represents 100% accuracy. Scores lower or higher than 100 indicate narrower or wider estimations.

* $p<0.05$; ** $p<0.01$

Results

Body experience : Perception

Scores on the four estimation tasks are shown in Table 2 Prior to a clinical therapeutic program, significant underestimation was found in anorexics, in estimation trials, both in frontal (t = 2.75, $p<0.05$) and in profile positions (t=4.99, $p<0.01$). But the control dummy object was also significantly underestimated (t = 8.69, $p<0.01$), which could indicate that a general perceptual disturbance could be the basis of the underestimation. The ideal body measures, on the other hand, correspond with the actual (thin) body appearance, which indicates that prior to a therapeutic program anorexics were satisfied perceptually with their emaciated bodies.

Body experience : satisfaction

The mean score of the anorexic patients on the BAQ was high (M = 46.44, SD = 18.53, range = 10-82) and differed significantly from a control group of 103 students (Probst, van Coppenolle, & Vandereycken, 1992). This implies that generally they are dissatisfied with their bodies.

***Table 3: Pearson correlation coefficients between* weight, fat and fat-free mass (FFM), assessed with densitometry and the Body Attitude Questionnaire (BAQ) and the composite score of the different tasks of the video distortion on admission (N=43).**

	BAQ	ID	FR	PR	DUM
Weight (kg)	0.08	-0.43**	0.25	0.27	-0.05
Fat (%)	0.05	-0.34*	0.28	0.32*	-0.10
Fat (kg)	0.10	-0.37*	0.32*	0.37*	-0.11
FFM (kg)	0.07	-0.43**	0.15	0.17	0.01

Note: ID = estimation of the ideal image; FR = estimation of the body in frontal position; PR = estimation of the body in profile position; DUM = estimation of the object (dummy).

* $p<0.05$; ** $p<0.01$

Relation between body experience and body composition

When we examined the relation between body composition data and the results from the body experience tests (video distortion and general body satisfaction), no significant relationships between body composition and scores on the body attitude questionnaire were observed, but some significant correlations with data from the video distortion technique (Table 3) including, porticularly, significant negative relationships which were found between the ideal body measures and data of weight, fat and fat-free mass (ranges – between r= .034 to r= .043). The higher the patient's weight, fat, and fat-free mass, the more the ideal image measures on the video distortion method were narrowed.

Also, there were low, but significant relationships between body perception in frontal and profile positions and the amount of the fat mass; the less fat mass anorexics have, the more they underestimate their measures. This, in turn, increases the perceptual disturbance.

Table 4: Comparison of admission and discharge composite scores of the four tasks with score(s) of undistorted image (100%) (N=21)

	Mean	SD	t
Frontal position			
Admission	93.3	10.0	1.85
Discharge	100.6	4.3	0.61
Profile position			
Admission	94.8	10.0	2.51*
Discharge	98.8	4.8	1.37
Dummy object			
Admission	93.3	6.0	5.02**
Discharge	98.6	6.6	0.96
Ideal image			
Admission	95.7	10.1	1.89
Discharge	94.8	6.2	4.02*

* $p < 0.05$, ** $p < 0.01$

Body experience after therapy

When we compared on-admission and post-therapy results, a decrease of the underestimation of body measures was noticed in frontal, profile, and dummy estimation trials (Table 4). On the other hand, patients' ideal image adjustments show significant underestimation. This indicates, that after a therapeutic program, patients want to be thinner than their current (fatter) body appearance. This suggests that after considerable weight gain (from 39.3 to 50.6 kg), their basic wish to become thinner has not changed much.

Remarkably, the body composition of the patients after the therapeutic program showed that there was a significant increase of fat mass (59%) and, to a lesser extent, of the fat-free mass (41%). This may explain why patients on discharge were not satisfied with the considerable increase of their body bulk. This could imply that psychomotor therapy should pay more attention to developing larger muscle mass through an adjusted training program.

Body satisfaction after therapy

The mean dissatisfaction score on the BAQ decreases from 47.1 (*SD* = 20.4) to 33.7 (*SD* = 14.8). Following the therapeutic program, the patients were less dissatisfied with their bodies, $t = 2.75$, $p<0.05$.

Discussion

The body experience of anorexics was found to be characterized by a general dissatisfaction with own bodies. Their perception of own body measures indicated an underestimation, even though they were satisfield by those body measures.

These findings correspond with results of similar studies by Costers (1988), Laenen (1986), Meermann (1983), and Touyz, Beaumont, Collins & Caure, (1986) showing that the anorexics' body experience was affected by weight and body composition.

As a result of the therapeutic program, a positive effect on underestimation of body measures and general body satisfaction had been indicated, however, the therapeutic program had no effect on the ideal body measures, probably because of too much emphasis on body weight, rather than on an increase of muscle mass. The last hypothesis suggests more serious attention to an adjusted power training program in psychomotor therapy.

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Therapeutic Physical Activity for Adolescents in a Closed Psychiatric Ward

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Abstract: Based on a review of the literature concerning physical activity with psychotic populations, a study was designed in order to evaluate the impact of a short term intervention program in a closed psychiatric ward for adolescents. The population included 15 boys and girls with schizophrenia, who were assigned to two groups, which received a condensed physical activity program (five times per week) and an alternative program for a period of three weeks each. The groups entered treatment and control conditions in a cross-over procedure, with implementation of base-line and wash-out (one week each) intervals as well as a one month follow-up period. The methods used pre-, post-, and during each program interval were self-report questionnaires including the Brief Symptom Inventory (BSI), a Visual Analogue Scale (VAS), the Physical Self Efficacy Scale (PSE) and the Perceived Competence Scale (PCS) for children and youth, as well as an observation tool for evaluating psychomotor symptoms (LOFOPT). The results indicated significant improvements in PSE and substantial, but non-significant improvements in PCS. Significant differences were also found in the LOFOPT scores between the pre and post tests as well as between pre and follow-up tests. These findings indicated a gradual improvement in psychomotor functioning. However, there was no improvement related to psychpathological characteristics.

Theoretical Background

The use of therapeutic physical activity as part of the psycho-social treatment program in mental hospitals, gains increasing interest among the mental health units in many countries in recent years. In addition to empirical and experimental information about the positive influences of physical activity in depressive patients (Morgan, 1968,1969, 1970; Greist, Klein Eichens, Faris, Gurman & Morgan, 1978; Kirkcaldy & Shephard, 1990; Pappas, Golin & Meyer, 1990; Sorensen, 1986) various reports, dealing with the link between physical activity and the mental health of psychotic patients, are being published for sometime. The researchers report on specific activities which were tried with success with these patients, such as:

- Table tennis (Esposito, 1988)
- The Martial Arts mainly Judo (Glaser, 1991; Sule, 1987), but also boxing (Armstrong, 1970)
- Water activity including swimming and hydrotherapy (Conte, de Wolfe, Klein and Barrell, 1971; Deimel, 1990; Harlfinger, 1971)
- Bicycling (Deimel, 1990, 1991)
- Games for active recreation and camping (Deimel, 1991)
- Muscular relaxation exercises (Boruchov, Harris & Starer, 1973)
- Flexibility and stretching exercises (Deimel, 1991)
- Movement and dance (Carroccio & Quattlebaum, 1969)
- Therapeutic running (Dodson &

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Mullens, 1960; Glaser, Brown & Lerner, 1988)

- Group-ball games (Cowen, McNeil and Robinson, 1979)

These games like football and basketball were particularly recommended for schizophrenics, because they enable the creation of inter-personal contact, organization of time and space dimensions, confrontation with frustrations and strengthening the sense of reality, and group cohesion. Most important, though, seems to be the commonly developed need for obedience to the rules of the games. These rules which are processed in a group talk, reflect to the schizophrenic patient the rules of social games, taking place outside the hospital (Bader & Milbank, 1963).

More studies testing the influence of physical activity and sport on psychotic populations hospitalized in psychiatric hospitals, are mentioned in the psychiatric literature. Table 1 details 15 studies, held in this field during the last 30 years. The table shows that in addition to the small number of studies, some of them lack in the number of subjects (for example 8 subjects at Anders, 1978, 13 at Powell, 1974) in objectiveness of the research tool (clinical observations only at Deimel, 1990, 1991; Glaser, 1991), and exclusive use of a subjective scale for general feeling (Andres, 1978). Another weakness in these studies is the absence of a control group in some of them (Andres, 1978; Hodges & Reimer, 1960). In addition of these weaknesses it is worth mentioning, that the studies differed from each other in the contents of the physical activity that was tested (swimming, hydrotherapy, table tennis, leisure and recreation activity, competitive ball games, group ball games, running etc.). The participants' age groups varied largely from youth and adolescents to geriatric population. Part of them belonged to full hospitalization wards, while others were in day care. The span of the physical program activity varied from 10 days to a year. The intensiveness of the activation was also diversified starting with a quarter of an hour every day to five times weekly, one hour at each session. In addition', it is worth mentioning that some important clinical data was missing in a considerable part of the reports on these studies, such as the duration of hospitalization, number of previous patients' hospitalizations, clinical sub-diagnoses of the psychotic patients (schizoeffective, disorganized, paranoids) and the level of medication dosage.

Notwithstanding the methodological shortcomings of some of the above described studies, and considering the professional ethics, (that makes it difficult to perform a clinical intervention research), it has to be noted that the positive influences of the physical activity in psychotic patients were substantial, and were mainly expressed in the following areas:

- Decrease in motor disturbances and in physical side effects of chronic hospitalization (Andres, 1978; Deimel, 1990, 1991; Glaser, 1991)
- Improvement in health perception and in body-image (Glaser, 1991; Smith, 1970)
- Improvement in the social and occupational functioning (Clark, Wade, Massey, & Van Dyke, 1975; Conte et al., 1971; Cowen et al., 1979; Deimel, 1991; Glaser, 1991) - Improvement in psychopathological symptoms (Deimel, 1991; Glaser, 1991; Powell, 1974).

Apter, Sharir, Tyano and Weijsenbeck (1978) reported in a single study examining adolescents in a psychiatric ward about encouraging changes in behavioral characteristics of the patients, observed by the team following of a therapeutic program aided by physical education.

Our research, conducted in the youth and adolescents' ward of the Mental Health Center "Abarbanel" in Bat-yam, was designated to examine the influ-

Table 1: Studies reflecting the influence of physical activity on psychotic populations

No	Authors	Years	No. of Subjects	Diagnosis	Age Range	Contents of Activity	Variables	Duration	Control Group	Evaluation Means	Finding
1	Cowen et al	1979	33 +three team mem-bers per group	Chronic Schyzo-phrenics Schyzo-effective	21-61	1. Competitive Ball-Games 2. Cooperative Ball-Games 3. Discussion without Physical Activity	1. Group Cohesion Level 2. Participation Quality and Qvantity	4 weeks Five sessions, 45-60 mins. each session 20 hour in total	Comperativ e Reseach of three group	1. Self-Report Questionnaire Yalon and Rand 1966 2. Report Questionnaire by team Sommer 1967 Participating Observation	1. In Phys. Act. grp. higher cohesion than in Discussion grp. 2. No difference in participation 3. Advantage for Phys. Act. grp. in Quality of Cooperation 4. No difference in cohesion between both groups
2	Armstrong	1970	72	Schyzo-phrenics		Boxing	1. Aggression Level 2. Physical Relaxation Ability		Yes	1. Rearschach 2. Rosenzweig 3. Noisic 30	No signs of decrease in Aggression Level due to Phys. Act.
3	Andres	1976	8	Chronic Schyzo-phrenics			Blood pressure Pulse Breathing +Physical Functioning	7 weeks		Subjective scale for general feeling	Improvemtofall Functioning and Physiological
4	Bolton	1976	20	Mixed Diagnoses Schyzo-phrenics Schyzo-effective and Depressive	20			8 weeks 3 times a week	No	1. Physical fitness test 2. TSCS	1. Improvement of physical fitness 2. No improvement in Social Mental Components
5	Clark	1975	23	Psych-geriatics	69		Pulse +Behavior +Recovery capacity	12 weeks 5 times a week	Yes	1. Pulse 2. Equilibrium test 3. Noisic 30 4. Activity Evoluation of Daily Life ADLI	1. Physical fitness improvement 2. Increase in amount of daily activity

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No	Authors	Years	No. of Subjects	Diagnosis	Age Range	Contents of Activity	Variables	Duration	Control Group	Evaluation Means	Finding
6	Conte	1971	36	Chronic Schyzo-phrenics	50	Swimming	Swimming Ability +Social Behaviour	6 months Twice a week	Yes	1. Video 2. Downey Scale for Participation in Activity	1. Possitive Results of Participation Directions in Res. Grp. 2. Possitive Influence on Social Behavior in Res. Grp.
7	Hudgdon	1960	42	Chronic Schyzophre nics	26		1. Physical Fitness 2. Hospitalization			Rogers' Physical Fitness	1. General Physical Fitness of Psychotics lower than Normal Population 2. Hospitalization has only marginal significance on results
8	Hudgdon and Reimer	1962	107	Chronic Schyzo-phrenics	38.4		1. Physical Finness 2. Pulse		Yes	1. Physical Fitness test 2. Schneider's test	1. Pulse and Blood Pressure of patients without Medication identical to Normal Population
9	Murphy	1972	299	Neuropsy-chotics			1. Physical Fitness 2. Hospitalization		Yes		1. As longer the Duration of Hospitalization as worse the patient's physical condition
10	Pishkin and Comstock	1962	20	Chronic Schyzo-phrenics	39	Swimming	Water Temperature	10 Pays		1. Performance continuity Ability test 2. MACC	1. Water temperature can have an influence on the patient's behavior 2. Cold water has more influence on participation motivation amorg the patients
11	Powell	1974	13	Schyzo-phrenics Psycho-geriatric	71.9		1. Physical Fitness 2. Cognitive Functioning Behavior	12 weeks Five times a week		1. Wexler's test 2. Memory for test Building 3. Noisie 30 4. Geriatric Evaluation Scale	1. Cognitive Functioning improved by Phys. Act. in Res. Grp. 2. No Big change in social Behavior between both Groups
12	Rice et. al.	1974	13	Schyzo-phrenics	35.2		1. Physical Fitness 2. Hospitalizaion			1. Roger's Physical Fitness Scale	1. No eminent difference in phys. fitness between hospitalized patients and discharged patients

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13	Smith	1970	20	Schyzo-phrenics	35	Izometric Power Training	1. Power Training 2. Body Image	51 days 15 minutes everyday		1. MMPI 2. Human Body Drawing 3. Cornel Cox Health Balance	1. Izometric Training power components 2. Improvement of Body Image 3. No improvement in other Psychological parameters
14	Gleser	1991		Acute Schyzo-phrenics and Chronics Schyzo-phrenics		1. Running 2. Fighting Arts:Judo 3. Talk Running	1. Physical Dimensions 2. Psychosocial Dimensions	Twice to Four times a week		1. Clinical Observations Participating Observations	1. Improvement of Physical Dimensions: Decrease in Movemental Disturbances 2. Decline in Anxiety and Aggression level 3. Improvement in self Evaluation Feeling 4. Improvement of Socialization and Occupation 5. Sublimation for Pathological Behavior
15	Deimel	1990 1991		Acute Schyzo-phrenics Chronic Schyzo-phrenics		1. 1. Bicycling 2. Social Games Active 3. Recriation Games (camping) 4. Movement and Dance 5. Muscular Tension and Relaxation acc. by music 6. Running 7. Group Ball Games: basketball, hockey, football 8. Swimming				1. Clinical Observations Participating Observations	1. Improvement of Physical Dimensions: Phys. Fitness, Heart Lung Endurence Muscular Endurence 2. Improvement of Psychological Dimensions: Decrease of Depression level, Decrease of Aggression level 3. Improvement of Social Dimensions: Mutual Help, Cooperation, Pastime transition to Sport lessons

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ence of short-term, but concentrated intervention of therapeutic physical activity, given as part of the psycho-social treatment, on the patients' personality and behaviour. Additionally to a behavioral observation by an observational instrument, characterizing psychomotor disturbances, (LOFOPT: Van Coppenolle et al., 1989) this research was aided by a number of questionnaires, which were filled out by the subjects in some time points during the research. Our hypotheses were, that as a result of the physical activity significant changes will occur in the treated youths' condition, as expressed by the following diagnostic tools:

- Feeling of physical self-efficacy
- Conception of self competence in the cognitive, social, physical and general dimensions (Harter, 1982)
- Index for general feeling by an analogical scale (Carlsson, 1983)
- Psychopathological symptoms, as expressed by a brief system questionnaire (BSI: Derogatis & Melisaratos, 1983).

Procedure

Subjects

Two groups of adolescents suffering from schizophrenia participated in the research. They were subjected intermittently to a framework of physical activity and sport group, and to a group studying press and actual matters. They totalled 15 boys and girls in to two classes of the educational framework existing in the ward.

The subjects were assigned to the sample based on the criteria of being in various stages of remission (i. e., c, d, e) of a post-psychotic state. They were fit and able to attend a physical education and sport program as well as oral lessons. These patients belonged integrally to their class, so that the sport activity and the oral lessons were held under the usual social group atmosphere, thus preventing a possible diversion in the research. That is, it was a casual sample, not a representative one. The subjects were defined as adolescent boys and girls with various degrees of schizophrenia, between the ages of 16-21. The duration of their hospitalization was between two and six months. All the subjects passed an identical medication balancing. That is, during the whole study and follow-up period they were given medication personally, without change, in a dosage equaling 500 mg of Largektil per day as an antipsychotic medication in addition to Lithium in

Table 2: Personal details of the research participants

Group	Sex	Age	Country of Birth	Hospitaliz. No.	Diagnosis
A	male	16	Israel	1	Schizophrenia
A	male	18	Israel	3	Paranoid Schizophrenia
A	male	18	Israel	6	Hebephrenic Schizophrenia
A	female	17	Romania	1	Paranoid Schizophrenia
A	female	18	Israel	1	Schizoeffective disturbance
A	male	20	Israel	4	Paranoid Schizophrenia
B	female	20	Israel	4	Schizophrenia
B	female	21	Russia	2	Paranoid Schizophrenia
B	female	20	Israel	1	Schizoeffective disturbance
B	female	20	Israel	1	Schizophrenia
B	male	19	Israel	4	Hebephrenic Schizophrenia
B	male	21	Israel	2	Paranoid Schizophrenia
B	male	21	Israel	2	Hebephrenic Schizophrenia
B	male	17	Israel	2	Schizophrenia

some specific cases. All other variables of the therapeutic intervention (except for the physical education and study group which were managed by crossing) were identical in both groups.

Table 2 describes the personal details of the subjects. There were nine boys and six girls. Average age – 19.13 years. Average number of hospitalizations - 2.33. Average span of present hospitalization - 3.4 months. Five of the adolescents (33%) were described as having unitfferentiated schizophrenia. Three (20%) – as having hebephrenic schizophrenia. Five adolescents had paranoid schizophrenia and two (13%) had schizoeffective schizophrenia. Evidence for familial psychopathology was presented in 46% of the cases.

Structure and contents of physical activation

The physical activity program was intensive. Five weekly sessions were conducted for three successive weeks. Each lesson lasted 45 minutes and consisted of the following elements:

- Warming of joints and muscles,
- In pairs and in small groups,
- The main part included learning of skills (use of frisbees, balls, skipping ropes, hoops and of recreational games while individually experiencing and ingroup setting,
- Relaxation and a summarizing talk.

The physical activity was held on the play ground adjoining the ward or in the fitness room in the ward's basement.

The research tools

During the process of this study a number of research tools were used to test self-reported psychometric characteristics of the subjects. Two of them are known in the Israeli health system: Brief Symptom Inventory [BSI] (Derogatis & Melisaratos, 1983). This tool tests general psychiatric symptomology by means of 49 items divided into 10 subscales suggested by factor analysis. These include nine disturbance areas (somatization, compulsiveness, interpersonal sensitivity, depression, anxiety, phobia, paranoia, psychoticism) and a general severity index. The respondent to this questionnaire is aided by a five-grade scale for describing the extent of the symptom by which he is afflicted (from "not at all" to "very much"). This tool is valid and reliable in the Israeli mental health system.

- Visual Analogue Scale [VAS] (Carlsson, 1983). On this scale, measuring feeling of pain, the respondent has to grade himself on a sequence between "I feel very bad" to "I feel very well". This is an absolute scale measured graphically by degrees between 1-10.
- Two additional tools were translated by us, and their use in this work should be considered as pilot research:
- Physical Self Efficacy [PSE] questionnaire (Ryckman, Robbins, Thorton, & Cantrell 1982). This questionnaire includes 22 items to be answered by a Leikert type scale of six grades on a sequence between "I absolutely don't agree" (6) to "I absolutely agree" (1). Low scores on this scale express a low sense of physical self-efficacy and vice versa. About half of the items were reversed in order to prevent diversion. The authors reported good internal consistency (r= .81).
- Perceived Competence Scale [PCS] for children and youth (Harter, 1982). This questionnaire includes 28 questions with a double alternative answer sheme. On each item the subject has to decide between two alternatives of general expressions, and at each alternative he has to decide whether the description fits him very much or little. In 14 items the first expression (to the right) represents a high competence level, and in the 14 expressions – a low competence level. Evaluation of each item is between 1 (lowest competence level) to 4 (highest level). The items are classified in four

dimensions of competence: cognitive, social, physical and general. The researchers pointed out good internal consistency (r= .80) in the different dimensions. The reliability in repeated measures also proved to be very good (r= .87).

In addition to the self-report questionnaires, an observation tool for evaluating psychomotor characteristics of the subjects in various time periods of the physical activity, was used. (LOFOPT: Van Coppenolle et al., 1989). An outside observer uses this tool by assigning scores to nine behavioral dimensions, measured during performance of motor tasks. The scores are evaluated on a bipolar scale between "-3" (extremely inactive) to "+3" (extremely active). This tool is valid in Belgium and also was found reliable in earlier experiments, which we did in Israel with hospitalized mental patients and with youth in day care and in ambulatory behavioral treatment (data not yet published).

Research design

The therapeutic physical activity program was carried out with two groups which entered activity in a cross-over design, in order to prevent reactive effects depending on the duration of the treatment. Six of the participants in the research were included in the first group entering physical activity (further on called grp. a) and nine – in the second group (further on called grp. b). The design included five different stages. The first stage consisted of a week for measuring a baseline. Next, an intervention program was performed (i. e., three weeks of physical activity) in grp. a. Parallel to this, the second group (grp. b) participated in an alternative educational group activity without physical components. At the end of this stage, a wash-out week was implemented, following which a sport intervention begun in grp. b (i. e., three weeks of physical activity), and, alternatively, an educational program in grp. a. A month after phase the intervention for grp. b, a follow-up procedure was performed among the subjects using all the research tools. Table 3 describes the use of various research tools in different time points during the research.

Table 3: The use of research tools in different research stages

Time	Research stage	Tools
start	T0 - start of measuring baseline	self report questionnaires
after 1 week	T1 - start of intervention grp. a	self report questionnaires
after 2 weeks		observation of grp. a
after 3 weeks		observation of grp. a
after 4 weeks	T2 - end of intervention grp. a start of wash out week	self report questionnaires observation of grp. a
after 5 weeks	T3 - end of wash out week start of intervention grp. b	self report questionnaire
after 6 weeks		observation of grp. b
after 7 weeks		observation of grp. b
after 8 weeks	T4 - end of intervention grp. b	observation of grp. b self report questionnaire

Results and Discussion

The results received from each subject by means of the reported research tools are presented in tables 4 and 5. Table 4 presents data obtained in the self-reports of the Visual Analogue Scale (VAS) and on the General Severity Index (651), which is a global Score (GSI), of the Brief Symptom Inventory (BSI). Table 5 presents data of the self-report questionnaires utilized in this research for the first time: Physical Self Efficacy (PSE) questionnaire and Perceived Competence Scale (PCS) in an average index of all four scales.

Table 4: Personal brief data of the self report questionnaires - the VAS and GSI scales. supplements 1-6 mark T0 - T5 degrees subsequently.

VAS						BSI						subject No
T1	T2	T3	T4	T5	T6	T1	T2	T3	T4	T5	T6	
9	10	10	9	10	10	0.5	0.3	0	0.3	0	0	1
4	4	0	1	3	6	0.8	0.8	1	0.5	0.5	2.8	2
10	10	0	0	0	10	1	0	2	1	3	2	3
1	1	1	9	1	1	0.5	0	0.5	0	0	0.8	4
6	5	5	5	5	5	1.3	0.3	0.3	1	0.3	0.8	5
10	10	10	10	10	10	0	0	0	0	0	0	6
7	7	7	7	8	8	0	0	0	0	0	0.5	7
2	9	10	10	9	10	0.3	0	0.5	0	0	0	8
10	1	0	0	1	0	1.3	2.8	3	2.8	1.8	2.5	9
10	10	10	10	10	8	0.8	0.8	0	0	0	0	10
10	12	5	9	7	9	-	-	-	-	-	-	11
10	10	0	10	8	10	1.8	2.3	2.3	2.3	2.0	2.0	12
10	0	10	10	10	9	-	-	-	-	-	-	13
0	4	6	3	5	6	3.0	3.0	2.3	4.0	3.0	0.5	14
5	9	10	3	5	0	3.5	0.8	0.8	0.5	0	1.5	15

Table 5: Personal brief data of the self report questionnaires - PES (MEANP) and PCS (MEANP) scales. supplements 1-6 mark T0 - T5 degrees subsequently.

PSE						PCS						Subject No
T1	T2	T3	T4	T5	T6	T1	T2	T3	T4	T5	T6	
4.24	4.76	5.00	4.81	4.57	5.14	2.48	2.93	2.63	3.30	3.26	3.63	1
3.19	3.29	3.19	3.29	3.00	3.62	2.67	2.33	2.59	2.56	2.33	2.78	2
3.05	3.62	3.62	3.86	3.86	3.86	3.26	3.56	3.85	3.89	3.78	3.37	3
3.33	4.29	3.81	5.05	3.57	5.29	2.63	2.48	2.85	3.33	2.74	3.81	4
3.95	4.57	5.38	3.86	3.67	4.19	2.70	2.67	3.04	3.30	3.07	3.22	5
4.67	4.81	4.57	4.57	4.33	4.57	2.67	2.81	2.48	3.04	2.81	2.70	6
4.57	4.52	4.29	4.14	3.86	4.57	2.52	3.37	2.70	2.93	2.67	2.93	7
5.14	4.62	4.76	4.52	2.24	4.33	2.78	2.89	3.22	3.04	3.00	3.49	8
3.95	2.24	2.95	2.52	3.38	2.03	2.74	1.96	2.44	1.56	1.70	1.19	9
3.81	4.29	4.33	4.24	4.62	4.14	2.85	2.78	2.56	2.96	2.89	2.96	10
5.52	4.81	6.05	5.52	5.29	4.81	3.89	3.67	3.19	3.89	3.89	3.89	11
3.24	2.90	3.19	3.33	2.24	3.29	2.00	1.96	2.19	2.59	3.19	3.19	12
5.05	5.29	3.62	3.86	3.62	3.62	3.67	3.78	3.67	3.67	3.67	3.67	13

Since the groups entered activity in a crossed order, and there was no fear for diversion because of activity duration, the scores received on the self- report questionnaires of grp.a in T1 (start of intervention) were combined with the scores of grp.b in T4 (end of intervention). Therefore, it was possible to combine the scores into one group (n=15), including both the treatment and control conditions subjected to repeated measures in statistical analysis.

One way analysis of variance for repeated measures (Repeated Measures ANOVA) was held between the treatment and control conditions in relation to Perceived Competence Scales (PCS). This revealed asignificant difference (p= .028, F= 2.69) between T3 (start of intervention) and T4 (end of intervention) on the physical competence-scale. On the general competence scale, and on the average of the four scales, there were meaningful non-significant differences, but not eminent (p= .093 and p= .094 respectively). It is worth mentioning that the difference revealed in the perception of physical competence expressed a decrease in this feeling in the group receiving physical activity during the experiment. This phenomenon may be attributed, perhaps, to an improvement of the patients' sense of reality during physical activity, which confronts them with their poor physical qualifications. It is reasonable to assume, that this phenomenon will be expressed also in other tested variables of personality and behavior, but the statistical findings of the other self report questionnaires could not verify this estimation.

Two-way analysis of variance (Friedman 2-way ANOVA) was performed on the average of relative scores received from the nine scores of the observation instrument (LOFOPT) at three-time points: at the end of the first week of the experiment, after three weeks and at follow-up (about a month after the end of intervention). This analysis revealed a difference (chi square= 9.1; p= .01). Therefore, a Wilcoxon test for matched pairs was performed, and significant differences were found between the first week of the experiment and its end, (p= .003; Z= -2.93) and between the first week and the follow-up (p= .0035; Z= -2.91). No significant difference was found between the end of the experiment and the follow-up was found (p= .356; Z= .942). Table 6 presents the averages and standard deviations of the relative scores received at three time points. This table shows that the direction of change was from negative scores (sub-activity) to positive scores (extra-activity). Further, it can be observed that the standard deviations were very large, which indicates a great dispersal of the subjects' scores. In addition, it has to be mentioned, that the use of a relative average scale might blind the polar scores received on the various scales. Thus, for example, the average of "-3" on one scale and of "+3" on another will be "0", expressing a standard degree, while the scores on each of the scales indicated extreme degrees of sub- and extra-activity. Therefore, we, found it apropriate to refer also to the absolute score (without consideration of the positive or the negative direction) in addition to the relative score, as well as to the number of appearances of polar scores (above -+1).

Table 6: Averages and standard deviations on different time points with the relative score received by LOFOPT observation

Time Point	Average Score	Standard Deviation
start of experiment	-3.93	5.713
end of experiment	3.00	3.20
follow - up	2.067	1.71

Table 7 presents the personal data from the structured observation, (LOFOPT), divided into the three scales, ab-

Table 7: Personal data of the subjects received by LOFOPT observation

Scale of Deviations			Relative Observation			Absolute Observation			
follow	end	start	follow	end	start	follow	end	start	subject No
0	3	5	3	5	-12	5	9	12	1
0	4	7	1	5	-15	5	10	15	2
1	3	3	4	0	2	6	10	10	3
1	1	3	1	6	-9	8	8	9	4
0	0	2	1	3	-7	7	3	7	5
0	0	3	2	6	4	7	6	10	6
4	1	1	3	-3	-3	11	7	7	7
0	0	1	1	8	-1	9	8	8	8
2	1	2	0	0	-10	9	8	8	9
2	0	2	7	4	-4	9	4	4	10
1	0	1	2	1	-3	4	3	3	11
2	1	1	2	0	0	8	4	4	12
1	1	1	1	0	1	6	8	8	13
2	4	0	1	7	3	10	11	11	14
2	0	1	2	3	-5	8	3	3	15

Figure 1a: Summary of structured observations data LOFOPT (absolute scale against relative scale) by subject No. 1 on the four time points (line marking the distances from 0 point – the desirable normal points)

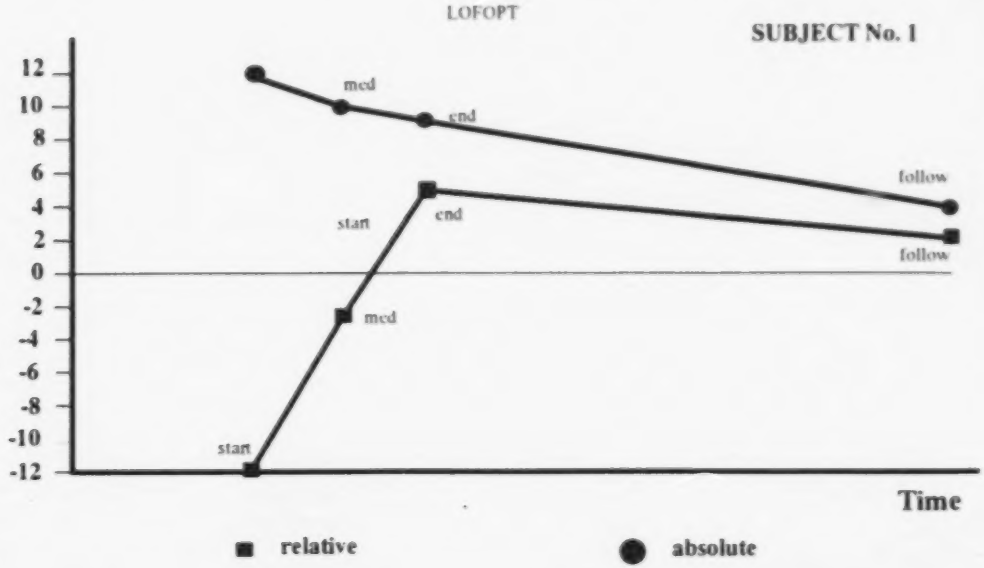
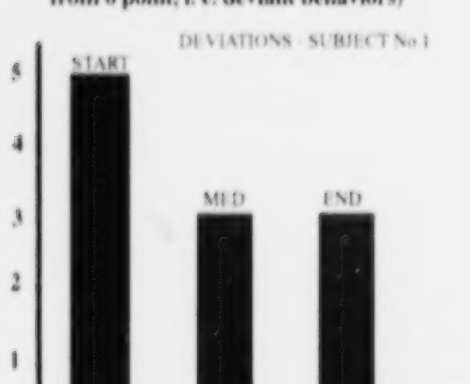


Figure 1b: Deviations scale of structureed observation LOFOPT by subject No.1 on the four time points (scale marking the deviations from 0 point, i. e. deviant behaviors)



solute data, relative data (without consideration of direction), and polar, scores scale. Due to the complexity of this involved reference, and due to the large variability among the subjects a visual analysis for every subject was performed. An example for these evaluations is graphically described in Figure 1. The figure presents the development of the relative and absolute scores and the deviations scale in all four-time points in which the observation was performed (see table 3). It can be clearly observed, that there exists a gradual development from inactivity to activity (relative score), from a high level of deviation to an average level (absolute score), and from a large number of extreme deviations to a low number.

Judging by the findings described above, it can be determined, that the observations present a clear picture of the improved the psychomotor characteristics observed during performance in motor tasks. The self-report questionnaires, to the contrary, did not verify this data, and except for the physical competence scale there was no variable presenting clear and significant differences between the groups. It can be assumed that this gap between the results of the various research tools results, at least partially, from the internal diversion in the self-report questionnaires. In the four questionnaires appear 102 items, which were passed to each subject to be filled out by himself six times during a relative short period of time of three months. This fact is especially difficult for paranoid schizophrenic patients, who may develop reactive bias based on the experimental arrangement (Hawthorne effect). On the other hand, there was no place for such bias, during the observations, as the observer remained in the background, and didn't know the subjects personally (she identified them by colored strips they had worn). However, the subjects knew they were observed during their lessons, and perhaps they choose "to act" an ideal figure serving the social willingness and not their own inner experience. Nevertheless, it has to be remembered, that we are talking about psychotic patients whose sense of reality is distorted. In a retrospective view, it seems to us that the subjects didn't pay much attention to the fact that they were observed. On the other hand, it is possible, that the observer had an unaware inclination to more positive degrees as the therapeutic process progressed. The fact that the subjects were unknown to the observer testified nonetheless against such an explanation. Therefore, it can be assumed, that while the psychomotor observation confirmed our hypothesized estimations of the effectiveness of short-term but intensive intervention of physical activity, there were no certain expressions of its effectiveness in the self-report questionnaires. It seems, at least, that physical activity increases the subjects' sense of reality and self-evaluation of their physical competence. It is therefore, recommended to carry out verification and follow-up studies testing specifically our assumption on the link between changing the extent of reality in the evaluation of physical competence and observed behavioral characteristics in the future.

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Concerns for Best Practice in Communication Interventions: An Australian Study

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ABSTRACT: Literature pertaining to communication needs of students with severe intellectual disabilities is reviewed. Data collected from a statewide survey of teachers is reported and discussed in the context of the research base, with particular emphasis on augmentative systems and instructional approaches used. Future directions for professional development are identified and discussed.

Introduction

This paper reports on a research and professional development project carried out by staff at Charles Sturt University, N.S.W., Australia, which demonstrates that basic research and practical application need not be incompatible. Both the concerns of classroom teachers involved in teaching students with severe intellectual disabilities and a background of research provided in the literature have been combined, resulting in the production of a professional development manual addressing the area of communication assessment and instruction for students with severe intellectual disabilities across contexts, activities and personnel.

Educational programming for students with a severe intellectual disability addresses in each individual the development of skills that will enable them to achieve maximum independence in home, school (or work) and community settings. Essential in each of these settings is the ability to communicate. Communication is a dynamic process and is defined by Dunst (1978, in Dunst & Lowe, 1986, p. 12) as:

...any overt conventional or non-conventional behaviour, whether used intentionally or not, that has the effect of arousing in an onlooker a belief that the signal producing organism [person] is attempting to convey a message, make a demand, request, etc., to an onlooker.

Such a definition has significant implications when discussing the needs of people with a severe intellectual disability. Firstly, behaviours need not be intentional to be communicative, and the partner may infer the intent of the action. Secondly, behaviours need not be conventional (e.g., speech) to be communicative, and in fact they may be primitive in form (a facial movement) or even socially unacceptable (scratch). Thirdly, the emphasis is on the pragmatic quality or function of the message, indicating that the person concerned is communicating for a purpose. Finally, the process involves a partner to receive and understand the purpose of the behaviour.

Traditionally, non-verbal students have been trained to use an alternative to speech to augment or facilitate their communication abilities (e.g., the use of signing or communication boards). Despite widespread and systematic training in such systems, reports indicate

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that students with severe intellectual disability continue to display significant deficits in communication abilities (Bryen & Joyce, 1985; Halle, 1987; Kaczmarek, 1990).

When observing students closely, Houghton, Bronicki and Guess (1987) found more frequent use of body movement (eg.,gestures) and social responses (eg., smile) than use of signing, communication boards or verbal behaviours. Recent research is therefore suggesting the need for recognition of existing informal systems and the importance of building on these before training in the use of more conventional symbolic systems (Siegel-Causey & Guess, 1989). For students with severe intellectual disability it is crucial that they first discover the power of their behaviours in generating a response from those with whom they interact. From this basis, they can further develop the ability to spontaneously use more conventional communicative structures or forms.

The acceptance that communication can be achieved through multi-modal means, where any behaviour of the students can be interpreted as being communicative, has significantly influenced our understanding of the behaviour of students with severe intellectual disabilities.

Recognition is now given to the significant development in communicative abilities at the preverbal stage. Nonverbal means such as reaching and pointing can achieve the same purposes of communication, possible through verbal means (Butterfield, 1991). Similarly, less socially accepted or indeed aberrant behaviours can also be seen to achieve functional ends (Burke, 1990; Carr & Durand, 1985).

A pragmatic based system to study the communication behaviour of students with severe intellectual disability analyzes the extent to which students are able to communicate to satisfy their needs, wants and intentions (Cirrin& Rowland,1985; Halle,1987; Linfoot, 1987). Pragmatic refers to the function of a behaviour and the effect that this has in regulating the behaviours of a listener (Burke, 1990). Naturalistic observations of students in classroom settings (Linfoot, 1987), observations in specific tasks structured to elicit communication (Cirrin & Rowland, 1985), as well as recent teacher report data, (Arthur & Butterfield, 1992) have provided evidence that students with severe intellectual disability do, in fact, achieve in a range of pragmatic functions.

Regardless of the form of the communicative behaviour, attention to the skills of effective discourse is necessary. This includes aspects of initiating and maintaining communicative interactions and responding to communicative interchanges with others. Concern exists that students with severe intellectual disability primarily respond and rarely initiate (Halle, 1987; Kaczmarek, 1990; Schwartz, Anderson & Halle, 1989). However, interesting evidence from classroom observations indicates that students do initiate more than teachers recognize and acknowledge. Houghton and associates (1987) observed students across 12 classrooms and found that students initiated communicative interactions approximately once each minute, while staff responded to these communications only 7 to 15% of the time.

Relatedly, importance is attributed to the reciprocal nature of communication, where the development of skills in the communicative partner are seen to be as critical as the development of skills in the student. Partners need to recognize and respond to all communicative attempts by the student, to know how to create a communicative environment and to know when to intervene to generate increased interaction. We need, therefore, to place equal or greater emphasis on addressing how teachers and all who interact with the student can be assisted to meet student needs, so that in fact, students with severe in-

tellectual disability do become competent communicators.

First of all, it is paramount that teachers receive training in how to recognize student's attempts to communicate (Houghton et al.,1987). By observing students, teachers will be able to assess more closely how students are currently communicating, what they are communicating about, and how they can perpetuate this process.

Secondly, the context of the instruction is important. In the past, students have been taught using systematic stimulus control techniques, usually at set times in the day (Goetz & Sailor, 1988; Houghton, et al.,1987). Such strategies have been powerful in advancing conceptual development and symbol recognition, perhaps at the expense of improving the quality of the communicative interaction process. Such isolated training sessions have been associated with lack of generalisation and functional use of skills for communicative purposes (Bryen & Joyce, 1985; Calculator, 1988; Carter, 1992). Teacher's use of strictly stimulus controlled situations creates a dependency in students on artificial rather than natural cues, to occasion a response. Linfoot (1987) found, after observing students in three different classroom settings, that students primarily respond, and that the highest responding rate occurred in structured rather than unstructured sessions. On the other hand, unstructured sessions were more conducive to student initiated interactions.

Improved results in effective use of communicative abilities have been reported to occur with teaching in natural settings utilizing activities the students usually perform, and enabling the naturally occurring cues of that setting to instigate communication (Caro & Snell, 1989; Mirenda, Iacono & Williams, 1990).

Strategies have been documented in the literature that support such an approach, each having a particular strength. The maned model technique (Rogers-Warren & Warren, 1980) has been found to be effective in developing initial responding behaviours. The time delay strategy (Gee,Graham,Goetz, Oshima, & Yoshioka, 1991; Halle, Baer, & Spradlin, 1981) is then effective in transferring the ability to use such behaviours to initiate. Incidental teaching (Hart & Risley, 1982; Warren & Kaiser, 1986) provides a framework for extending-existing forms. Interrupted behaviour chain (Gee et al., 1991; Goetz, Gee & Sailor, 1985) has been found to be effective in motivating a student who is reluctant to communicate and make social contact.

Natural teaching strategies all share the following features: Opportunity exists to arrange the environment to increase interaction. While working within normal routines, specific communication objectives are targeted. Natural consequences provide reinforcement to communicative attempts, while natural cues occasion the behaviour. Essential learning principles such as shaping, prompting and modelling are maintained and used following systematic and controlled procedures (Mirenda et al., 1990; Warren & Kaiser, 1986).

While the use of such strategies to promote functional communication in everyday events by students with severe intellectual disability is supported by research, (Calculator & Jorgensen 1991; Caro & Snell, 1989; Warren & Kaiser, 1986) this information has been poorly disseminated to teachers (Schwartz,Anderson, and Halle, 1989). It is clear then, that teachers need training in how to structure naturally occurring situations throughout the day to occasion increased opportunities for communicative interaction.

A number of studies have shown that teachers can be trained to use such strategies and direct intervention to more functionally appropriate objec-

tives. Haring, Neetz, Lovinger, Peck and Semmel,(1987) were successful in training teachers to use four modified incidental techniques, including blocking access, providing for choices, placing materials out of reach, and offering students objects out of context. Teachers increased the number of opportunities for students to communicate, and students demonstrated higher responding rates. Schwartz et al., (1989) reported on successfully training teachers to utilize time delay in every day situations. As a result, students became more responsive and dependence on verbal prompts was lessened.

By focusing on the reciprocal nature of communication, necessary attention is given to addressing both student and teacher needs. As noted by Caro and Snell (1989,p.67) the goal of communication programming for students with severe intellectual disabilities is to:

...increase the frequency of their communicative functions, and to promote their spontaneous and generalised use of communicative behaviour in everyday life.

This can only be addressed by attaching importance to the training of skills in those who act as the interactive partner for the student.

In summary, the research reported to date highlights the fact that students with severe intellectual disability are not necessarily effective users of formal communication systems, but can achieve communicative power if recognition is given to their existing abilities and the functions achieved by those actions. Importance is placed on the reciprocal nature of communication. This factor has significant implications for increasing skills in the communicative partner including the possibility that formal and structured teaching sessions may not adequately develop interactive and effective communication processes. Research supports the use of naturalistic teaching strategies and although teachers have been successfully trained to use these strategies, translation of this information from research to practice has not yet been adequately achieved.

The following discussion outlines some findings from a survey of teachers of students with severe and moderate intellectual disability in NSW, Australia. Interesting directions are indicated in terms of the need for professional development in this area. The following questions will guide the study:

- Do teachers of students with severe disabilities report use of instructional strategies identified as best practice in the literature?
- Does current training in special education appear to result in the adoption of best practice in communication interventions?

Method

Subjects

A comprehensive questionnaire involving open-ended and rated items was sent to all teachers of students with moderate or severe intellectual disabilities in government schools across NSW, Australia. Appendix 1 details relevant sections of this questionnaire. In broad terms, targeted teachers were either working in support classes in regular public schools, or schools for specific purposes (S.S.P's). A sample of this magnitude could reasonably be expected to reflect a wide variation in levels of teacher education and experience in the field. Given the vagaries of flexible staffing, it was impossible to establish exact teacher numbers in any given region.

Accordingly, initial estimates were inflated by approximately 10% when introductory letters, questionnaire forms and reply-paid envelopes were mailed out to schools. Similarly, although the research team was specifically interested in the needs of teachers working with students with severe intellectual disabilities, the heterogeneous nature of class groupings for students with

moderate (IO) or severe (IS) intellectual disabilities meant that all classroom teachers working with these populations were potential respondents. Both of the above factors may have important implications for the resultant return rate.

Instrument

The instrument (Appendix 1) required respondents to detail the communication skills of students in their class, outline the wider processes of service delivery and ecological factors at work in these students' lives, and express their personal skills and concerns in this area. Student-detail was necessary to allow the research team to build up a picture of the communicative levels of individuals and groups and match this information to teachers' perceived needs.

Procedures

676 survey forms coded for demographic but not personal details, were sent to a total of 208 schools across the 10 Departmental regions of N.S.W., with appropriate covering letters to principals and teachers. A suggested final return date was indicated in this information, and when this date had passed, schools with a poor response rate were systematically phoned twice over a two week period to remind staff about the survey. A short follow-up questionnaire was sent to a stratified sample of non-respondents, to explore possible reasons for non-response.

Results

Response rate

Overall, a mean school response rate (return of 1 or more questionnaires per school) of 57% was achieved statewide (regional range 35-76%). More specifically, the mean teacher response rate was 38% statewide (n=241), with a regional range of 23-60%.

As expected, respondents to the original questionnaire represented a range of teacher training backgrounds. 69% (n=167) of respondents reported some special education training (from masters' level to preserve course components). Interestingly, the largest respondent group (42%) indicated special education teaching experience in the 0-5 year range, a point which will be discussed later in the paper. (Note: All percentages rounded to nearest whole number.)

Teacher-skills in communication interventions

The frequency figures presented in Table 1 derive from an open ended question in which teachers were asked to list any techniques in communication enhancement and/or facilitation that they were familiar with or regularly used with their students, (see Question 9, Appendix 1). Very few teachers reported that they used techniques such as arranging the learning environment to enhance communicative interactions or teaching for generalisation.

Table 2 presents data also summarised from responses to the above question, (Question 9, Appendix 1) but reports more specifically on the type of augmentative communication system

Table 1: Teacher-reported use of instructional strategies that reflect best practice

	Arranging learning environment to enhance communicative interactions	Teaching for generalisation
Reported	10 (4)	2 (1)
Not reported	231 (96)	239 (99)
TOTAL	241 (100)	241 (100)

Note: Percentages in brackets. All percentages rounded to nearest whole figure.

taught by teachers. The use of symbols may refer to photographs, line drawings, or objects. It can be seen that more teachers are reporting a range of augmentative forms of communication as enhancement strategies, in contrast to use of strategies to enhance communicative interactions (Table 1).

Table 2: Teacher-reported use of augmentative forms as enhancement or facilitation strategies.

	Use of symbol system	Use of signing system
Reported	123 (51)	117 (48)
Not reported	118 (49)	124 (52)
TOTAL	241 (100)	241 (100)

Note: Percentages in brackets. All percentages rounded to nearest whole figure.

Table 3 outlines teacher responses to the question 'Does your school/unit have a preferred system of communication augmentation which it uses with most of its students? If yes please specify' (Question 14, Appendix 1). Overall, it appears that a large number of teachers considered that their school had a preferred augmentative system for use with students.

Table 4 describes the reported preferred augmentative communication systems. It would appear that Compic (computer pictures) is reported to be the preferred mode over signing, however a higher percentage of schools are reported to be using a combination of both systems (compic and signing).

Table 3: Teacher-indication of system of communication augmentation preferred by school

Teacher-response	Number of reports	%
Yes	137	57
No	104	43
TOTAL	241	100

Note: All percentages rounded to nearest whole figure.

Table 5 relates teacher training in special education to reported use of instructional techniques recommended as best practice in the current research literature. Again, a small number of teachers reported their use of such strategies.

Table 4: Teacher reports about specific augmentative systems preferred by schools

System	Number of reports	% of respondents
Compic (computer pictures)	48	32
Manual signs	29	19
Combination of compic and manual sign	54	36
Miscellaneous	19	13
TOTAL	150	100

Note: Teachers who provided details for this question exceeded the number of yes respondents in Table 3; percentage computations are based on respondents who provided details of such systems, and are rounded to the nearest whole figure.

Discussion

Although current research on best practice (Butterfield, 1991; Goetz & Sailor, 1988) suggest that techniques such as arranging the learning environment are important, even crucial to communication development, most teachers who responded to this survey do not appear to be either familiar with or using them to any significant level. In contrast, the data presented in Table 2 suggest that teachers place heavy emphasis on the communicative forms used by their students such as symbols.

Table 5: Teacher-training in special education and use of instructional techniques that reflect best practice

Special education training	Teacher-report of arranging the learning environment to enhance communication	Teacher-reports of teaching for generalisation
Yes	8 (3)	1 (0.4)
No	2 (1)	1 (0.4)
TOTAL	10 (4)	2 (1)

Note: Percentage in brackets denotes proportion of entire set of respondents (n=241). All percentages rounded to nearest whole figure.

Teachers who responded in this study appear to be focused on the communicative forms used by their students, but are perhaps significantly less able to identify or use ways in which communication, as a wider process, can or should be taught. *How* to teach use of one's communicative opportunities and enhance the power of that communication for the student, is a central theme of much of the current literature, discussed earlier, and is underlined as a vital professional need of the teachers who participated in this research.

As if to further confirm this point, 57% (n=137) of the respondent teachers answered "yes" when asked the question: 'Does your school/unit have a preferred system of communication augmentation which it uses with most of its students?' (Table 3 and Question 14, Appendix 1). Of the 137 who answered "yes", 32% identified Compics (computer pictures) as the school preferred system, with 19% indicating manual signs and 36% indicating a combination of systems.

This raises the question: How well are we seeking to match individual student needs to relevant modes and functions of communication? Could it be that communication programming is system (or forms) driven, rather than having it's focus on the existing and unique skills and needs of the individual? (Arthur, 1989).

Relatedly, it is important to consider the impact of special education training on teacher-use of appropriate techniques in communication assessment, instruction and development. Table 5 indicates that specialized training does not appear to have positively influenced teacher use of relevant strategies, although this conclusion is limited by the small report levels for the strategies overall.

Although conclusions drawn from the reported data are limited to some extent by the response rate, they do point to some important issues for consideration by those involved in the provision of in-service education, consultancy services and other forms of support for teachers of students with severe intellectual disability.

Future research must continue to support student development of informal means for acknowledging, initiating and engaging in interactive behaviours. While communication using comprehensible *forms* of communication (like speech, signing or symbol use) is clearly an important task for students with severe disabilities, and one for which their teachers input will be very important, many researchers and writers on communication development are clear now that this emphasis on forms is not a sufficient educational or developmental goal. Teachers and other communication partners need assistance incorporating repertoires for everyday social opportunities into their interactive behaviours which are sensitive to the abilities, feelings and expectations of their students. These pragmatic considerations in training are probably more important for communication learning of this population than the acquisition of augmentative communication forms.

This study has suggested teachers' perception that the outward sign of the students' communicative difficulty, i.e., the form of communication, is the first step in trying to develop a constructive intervention. Perhaps disappointingly, these orientations appear to be consistent across all groups of teachers, irrespective of level of training in special education. The impact of recent research of the communicative behaviour of students with severe intellectual disability has either not found its way to special education courses or has not been transferred to the attitudes and beliefs of teachers' completing them.

Conclusion

This paper concludes with a number of statements which appear to be crucial for those involved in supporting the

service delivery arrangements for students with a severe intellectual disability.

Firstly, teachers need support in the careful development and implementation of responsive instructional strategies which stimulate interactive processes.

Secondly, this view introduces the idea that teaching the use of communication systems (whether they involve signing, symbol use or other more informal systems) is not an end in itself, but should complement students achievement of a wide range of communicative functions.

Dissemination of the skills discussed above is a high priority in the light of both current literature and the study reported here. A professional development manual recently published in NSW, Australia (Butterfield et al., 1992; Butterfield, Arthur & Linfoot, 1992) will go towards meeting these needs. In addition, a comprehensive in-service program designed to support the introduction of this resource is planned for implementation across the state. Future papers will report on the effectiveness of these professional development interventions in closing the gap between exemplary and general practice in a wide array of communicative contexts.

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APPENDIX

Teacher Skills in Early Communication Programming for Students with Severe Intellectual Disabilities: A Professional Development Project

Ken Linfoot, Michael Arthur, Nancy Butterfield. Charles Sturt University-Mitchell.

Please complete this survey ONLY if you have primary programming responsibility for a student, or students who have been placed in your class on the basis of a moderate (IO) or severe (IS) intellectual disability.

A. **YOUR STUDENTS**

1. Please indicate each student who uses, or a combination from the following list as their basic means of communication. 1 = Consistent Use. 2 = Occasional Use.

	St1	St2	St3	St4	St5	St6	St7	St8	St9
Student's initials									
Placement (IO/IS)									
Gender									
Age: years/months									
Communication System- Speech									
Manual Signs									
Symbols- a. Objects									
b. Mini objects									
c. Pictures									
d. Photographs									
e. Graphics - eg. I. Rebus									
II. Line Drawings									
III. Bliss									
IV. Compit									
V. Other (Please name)									

2. Do your students primarily communicate the following language functions using a formal system as in IQ (indicate S), or informally using eye blinks, gestures, smiles, etc. (indicate I), or not at all (indicate N), or you are unsure (indicate U)?

	St1	St2	St3	St4	St5	St6	St7	St8	St9
Request object									
Request action									
Reject object									
Protest									
Request attention									
Respond to name									
Respond to other communication									
Take turns in communicative interaction									
Greet/Farewell									
Indicate choice									
Show, eg. toy									
Express feelings									

3. For each of your students, please tick the box indicating the frequency of their attempts at involvement in communicative interactions.

	St1	St2	St3	St4	St5	St6	St7	St8	St9
Never interacts/seeks involvement									
Rarely interacts/seeks involvement									
Occasionally interacts/seeks involvement									
Often interacts as appropriate for situation									

4. Do your students primarily initiate interactions, respond to others, both initiate and respond to communication opportunities, take turns in communication, or neither initiate or respond? Please Lick for each student.

	St1	St2	St3	St4	St5	St6	St7	St8	St9
Primarily initiates									
Primarily responds									
Initiates & responds									
Takes turns in communication									
Neither initiates or responds									

B. YOUR CONCERNS AND SKILLS

5. What professional in service support do you most need to facilitate and enhance the communicative skills of your students? Please list, in priority order, your needs in the following spare.

6. How do you rate your abilities in the following areas?

	Poor	Fair	Good	Ex'lent
Noticing student initiated communication				
Helping students to respond communicatively				
Creating opportunities for communication in different settings				

7. How confident do you feel about communication programming for your students? Please circle your response.

Lacking confidence / Generally confident / Very confident.

8. How do you assess your students for communication programming?

9. Please list in the appropriate box any techniques in communication, enhancement and/or facilitation that you are familiar with and/or regularly use with your students.

Please list techniques	Familiar	Regularly use

10. a. Have you had any formal training in special education? Yes/No

If yes, please tick the appropriate box.

- Masters' Level Degree (Special Education)
- Graduate Diploma (Special Education)
- B. Ed (Special Education)
- Component of preservice training
- Dept. of School Education Retraining Course
- (*Please indicate duration) _____
- Other (Please give details) _____

b. How many years have you been teaching in Special Education?

C. **AT SCHOOL AND HOME**

11. Do you have the services of a: (please tick)

- speech pathologist
- occupational therapist
- physiotherapist
- school counsellor
- other specialist (please specify)

12. Are these people involved in the following aspects of communication programming for your student/s? (please tick foryes)

	Goal setting	Instruction	Evaluation
Parents/Care givers			
Speech Path.			
Occ. Therapist			
Teacher's Aide			
School Couns.			
Other (specify)			

13. At a broad level, how do you rate the consistency across home and school environments of the communicative expectations made of your students? Please circle your response.

Highly consistent/Generally consistent/Generally inconsistent
Highly inconsistent.

14. Does your school/unit have a preferred system of communication augmentation which it uses with most of its students? Yes/No
(Please circle your answer)

If yes, please specify _____

D. **IN CONCLUSION**

Do you have any other concerns, needs or suggestions relevant to this area of communication in students with moderate or severe intellectual disabilities? Please list below

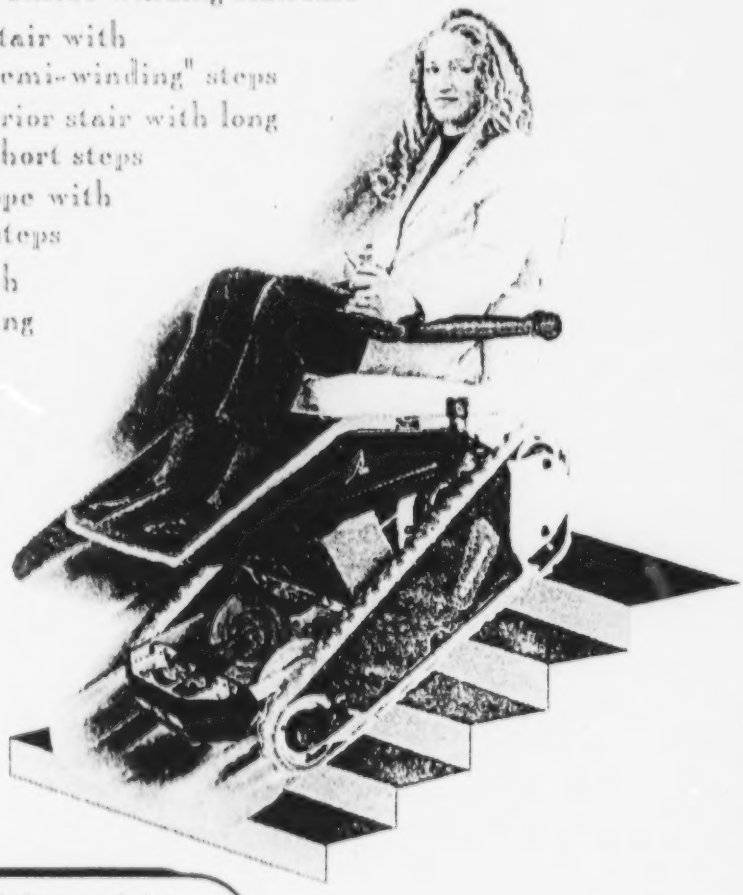
_____
_____
_____
_____

Thank you for your participation in this survey. Please be assured of the confidentiality and anonymity of this response, and return it in the pre-paid envelope as soon as you are able, or at the latest, by to:

Michael Arthur
School of Teacher Education
Charles Sturt University-Mitchell
Panorama Avenue
BATHURST NSW 2795

NO ASSISTANCE IS REQUIRED WHEN GOING UP OR DOWN THE STAIRS.

- ☑ Beginning winding staircase
- ☑ Exterior stairs with "rounded" and rough steps
- ☑ Inside winding staircase
- ☑ Stair with "semi-winding" steps
- ☑ Exterior stair with long and short steps
- ☑ Stair slope with regular steps
- ☑ Landing with stair beginning



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Specific Learning Difficulties (Dyslexia): Psychological Research and Educational Practice

Rea Reason

Abstract: *Specific learning difficulties (also called learning disability or dyslexia) are frequently identified on the basis of some kind of discrepancy between literacy achievements and other attainments. The pitfalls of such discrepancy definitions are considered. Variations in incidence illustrate further problems. Labels implying within child neurological problems can detract attention from policies and practices that are accountable of the full social and instructional context in which learning difficulties arise. Brief reviews of selected causal explanations give a flavour of the kinds of cognitive areas of research involved. These research findings do not currently match educational practice in any clear way. Observations demonstrate the cumulative effects of early difficulties, when those experiencing failure come to avoid reading and writing. Their lack of opportunity to develop competencies, then contributes to specific learning difficulties. It is argued that teaching methods should not only be limited to direct practice of particular phonological aspects, but should be based on broader language experience approaches.*

Introduction

This paper considers persistent failure in those aspects of literacy learning concerned with print recognition and reproduction. These kinds of difficulties have been given many labels including: "word blindness", "specific reading retardation","specific reading/spelling/writing difficulties", "learning disability", "specific learning difficulties", and "dyslexia". Those working within the educational context in the UK, now generally refer to "specific learning difficulties". In the USA, Public Law 94-142 includes the category of "specific learning disability", "learning disability" or "LD". Many have sympathy for "dyslexia" as a convenient shorthand term but others reject it because of medical connotations and implied certainties about a definite "syndrome". The controversies surrounding the labels alone illustrate many different theoretical and applied interests in the field. Definitions, casual explanations, approaches to identification and their instructional implications will vary according to the particular viewpoints of the researchers or practitioners involved. A review of the psychological, psychomedical and educational literature has been provided by Pumfrey and Reason (1991). The present paper is limited to the following aspects:

- The validity of the notion of discrepancy in identifying children with specific learning difficulties;
- Estimates of incidence of specific learning difficulties and their dependence on particular educational contexts;
- An overview of some aspects of cognitive psychological research which focuses on word recognition skills;
- Implications with regard to educational assessment and teaching methods.

The Notion of Discrepancy

In 1989 the Division of Educational and Child Psychology of the British Psy-

chological Society undertook a major survey of opinions and policies with regard to specific learning difficulties in the UK (Pumfrey & Reason, 1991). One aspect of the research involved educational psychologists' views and practices. The 882 completed questionnaires represented some 50% of possible respondents in England and Wales. The majority of these psychologists reported that they found the term "specific learning difficulties" useful in their professional work but only 30 percent found "dyslexia" useful. Although the psychologists themselves did not refer to "dyslexia", many commented on their willingness to accept its use by others, parents in particular.

In identifying individual pupils with specific learning difficulties, educational psychologists commonly considered a range of information including reports from parents and teachers, the pupils' own views, learning history, classroom observations, the effects of intervention, and results of standardized tests. Many were committed to various forms of curriculum-based assessment combined with qualitative observations of learning strategies. Seventy-eight percent of respondents reported that they usually assessed discrepancies between abilities and attainments in some form, which did not necessarily involve psychometric test results.

Alternative conceptions focused on particular aspects of learning such as discrepancies between well developed use of context and poorly developed recognition of print in the acquisition of literacy.

Cognitive researchers have also defined specific learning difficulties in terms of some kind of discrepancy between literacy achievements and other attainments concerned with conceptual understanding or general language skills. Psychometric measures have commonly provided the basis for such judgments. Some, including the general public, have had in mind "bright" children who have made unexpectedly poor progress in acquiring basic literacy skills.

In the context of applied educational practice these kinds of definitions are open to accusations of "elitism". Consider a hypothetical example of three girls named Anne, Barbara, and Carol. All three are aged 10 years. All three have "reading ages" of about 6 years. But Anne's "mental age" as defined by test scores is 12 years, Barbara's – 10 years and Carol's – 8 years. It might now be argued that Anne is the one with specific learning difficulties and has a more special claim on additional help. But do not all three girls have a need to read and write? And do not all three have the capacity to take advantage of these activities? And can they not all have particular difficulties with the print aspects of literacy?

According to Stanovich (1991), discrepancy definitions involving intelligence or ability tests have led researchers and practitioners badly astray. He points to the futility of defining a hypothetical construct, such as specific learning disability through another hypothetical construct such as intelligence. His arguments are particularly pertinent at a time when other researchers, interested in exceptional abilities, have emphasised the multifaceted nature of those abilities and their strong dependence on both environmental and motivational factors. The concept of "potential" and the related concept of "underachievement" raise questions about the very nature of the measures used.

Whether either Anne, or Barbara, or Carol, or all three of them, are labelled as having specific learning difficulties, depends on society's values and priorities and on whether that label is required in order to access additional and appropriate help with literacy. These are administrative decisions and should not be confused with the purposes of psychological research or educational interventions. All three girls can improve

their literacy skills, and all three may require extra tuition over a long period of time, usually provided from the limited public purse. The parents of all three will have no doubts that their particular child needs and merits additional help.

In identifying those children who have specific problems with the print aspects of literacy, Stanovich (1991) suggests that measures of intelligence might be replaced by measures of listening comprehension which can then be contrasted with measures of decoding skills. He acknowledges that this is another kind of discrepancy definition but, at least, listening comprehension would have greater face validity in being closely related to the purposes of reading and writing.

The dilemma still remains. First, it is possible to have difficulties with both the meaning getting aspects of literacy and the print aspects of literacy. Secondly, measures of listening comprehension would have to accommodate the needs of those children whose mother tongue is different from the language of instruction. Thirdly, difficulties with phonological aspects of working memory associated with specific learning difficulties may also interfere with tasks involving listening comprehension (Jorm, 1983; Shankweiler & Crain, 1986). In the light of present knowledge clear operational definitions of specific learning difficulties remain elusive.

Children's ability to learn can be affected by a range of reasons, some related to teaching methods, some to adult expectations (school and family) and some to the interaction of these factors with the children's particular aptitudes and approaches. Diagnostic assessment requires an investigation of the child's achievements and strategies in relation to the reading and writing tasks themselves and in relation to other subjects of the curriculum. As will be described later, the assessment needs to take account of particular difficulties with the various aspects of phonological processing.

Incidence

Definitions largely determine incidence so that imprecise definitions linked to legal/ administrative procedures lead to varying incidences. The kinds of discrepancy definitions described above illustrate this point. What magnitude of discrepancy between literacy and other achievements merits the label of "specific learning difficulties"? How serious must the reading and writing problems be to receive the label? In practice, "specific learning difficulties" can be regarded along a continuum, ranging from mild to severe. Those at the "mild" end would eventually become labelled "severe" if they lacked adequate opportunities to make progress.

Investigations of incidence depend on the particular conceptual models and operational definitions used by those identifying the specific learning difficulties. A comparison of the results of the influential Isle of Wight study (Rutter & Yule, 1975) with two Scottish studies (Clark, 1970; Grampian Region School Psychological Service, 1988) illustrates the variability of results. On the basis of a discrepancy of at least 28 months between reading test scores and scores predicted using children's age and ability, Rutter & Yule (1975) used regression equations to identify a group of pupils labelled "specifically reading retarded". For that group they calculated incidence figures of 3.5 per cent of 10-year-olds and 4.5 per cent of 14-year-olds. The smaller Scottish studies, separated in time by nearly twenty years, had different aims, sampling techniques and research designs. Nevertheless, both results indicated a much lower incidence figure of about one per cent.

All three investigations defined "specific learning difficulties" on the basis of discrepancies between some kind of measures of intelligence and measures

of reading achievement. As has been discussed earlier in this paper, the validity of such discrepancy definitions are increasingly being questioned (Siegel, 1989; Stanovich, 1991). It should also be noted that the work of Rutter & Yule (1975) has been criticised on the grounds that their score distributions were distorted by ceiling effects resulting from an insufficient range of possible scores on the reading test used (Rodgers, 1983; Share, McGee, McKenzie, Williams, & Silva, 1987).

The procedures of "statementing" children with special educational needs under the provisions of the 1981 Education Act in the UK does not necessarily identify all children with specific learning difficulties (dyslexia), but must include a considerable proportion of them. Using the formal procedure of "statementing" as one criterion for incidence, Local Education Authorities show identification rates that vary between 0.04 per cent and 4.2 per cent (Select Committee on Education, Science and the Arts, 1987). Such a hundredfold variation raises many questions concerning what is being identified and the policies and practices of those involved.

Similar trends are apparent in the USA, where recent years have seen a marked increase in the incidence of "learning disability". Sigmon (1989) traces the historical developments which have resulted in the term becoming by far the most popular category under Public Law 94-142. Supported by federal funding, there is now a proliferation of "special programs" which remove some two million children from mainstream classrooms for significant parts of the school day.

Coles (1989) writes convincingly about the way, educational difficulties can be shaped by political, economic and cultural factors. In the case of learning disability, the label implies that the learner only has a "minor neurological glitch" and is not generally slow, backward or lazy. The label is socially acceptable. Schools then have a tendency to "explain away" their own failures, which may be due to a combination of organizational, instructional or financial factors, by labelling the children as having these specific "glitches". In Coles' view, the over-individualised cognitive and neuropsychological work, associated with learning disability, research, has significantly detracted attention from a consideration of the educational context. According to Adelman (1989), the overuse of the learning disability label has resulted in a tendency to trivialize learning difficulties and has seriously confounded the research and practice of those whose purpose is to broaden the focus of intervention at school.

The American experience is particularly relevant to those involved in making additional provisions for pupils identified as having specific learning difficulties. It warns against the pitfalls of allowing labels, limited to within-child variables, to detract attention from policies and practices that take account of the full social and instructional context in which specific learning difficulties arise.

Cognitive Research

Those concerned with the equitable distribution of educational resources will continue to be dismayed by the different operational definitions of specific learning difficulties and the varying estimates of incidence. Educational practitioners, such as teachers and psychologists, will be inclined to take a pragmatic view of assessment and intervention by concentrating on the particular needs of the individual regardless of labels. For all of them the research attempting to clarify the psychological causes of specific learning difficulties will be of interest. The following is a brief and selective overview of some of the areas of cognitive research. The many references will enable interested

readers to follow up in detail any of the work mentioned.

Developmental models

Developmental models of the acquisition of literacy has become acceptable to many cognitive psychologists. The problems of children with specific learning difficulties are explained with reference to the kind of developmental sequence described by Frith (1985). Both reading and spelling are thought to have fairly independent sequences of development with reciprocal influences occurring at different stages. The major stages of development are referred to as the "logographic", the "alphabetic" and the "orthographic".

The "logographic" stage is basically one in which children recognise words holistically. This would appear to be far more significant for reading than for spelling as alphabetic information is required for recognisable spelling.

The "alphabetic" stage describes the development of letter-sound knowledge, thus allowing reading by grapheme-phoneme correspondence to take place. Much of the development here would seem to be driven by spelling.

At the "orthographic" stage children read and spell by a more direct route based on an automatic knowledge of the associations between grapho-phonic elements, syntax, and semantics. Some children have been labelled "dysgraphic" because they display difficulty in spelling, not reading. They are presumed to have difficulty at the "orthographic" stage in that they are only capable of spelling on the basis of letter-sound correspondences.

Frith's developmental sequence can be regarded as mirroring a traditional progression of teaching from "look and say" to "phonics" probably evolved from assumptions about the simplest way to teach children (Frith, 1985). It could be argued that the teaching itself imposes a developmental sequence on the children.

Phonological memory and awareness

Specific learning difficulties have become largely associated with the "alphabetic" stage. This is where phonology has a major part to play. Several aspects of phonological processing have been considered significant associates of literacy difficulties. These are phonological awareness, phonological recoding in lexical access (i.e. naming), and phonetic recoding to maintain information in working memory (i.e. immediate rehearsal). A review of this field is provided by Wagner and Torgesen (1987).

Dyslexics and poor readers have been shown to display difficulty with phonologically regular non-words when matched with controls of an equivalent literacy level (Snowling, 1980; Baddeley, Ellis, Miles, & Lewis, 1982; Frith & Snowling, 1983; Seymour, 1986, 1987; Holligan & Johnston, 1988). Similarly, those designated as dyslexics have shown less use of phonology (rhyme) in a cued recall task, when compared to younger readers (Rack, 1985).

The most notable predictors of young children's literacy development have been found to be those which involve phonological processing or awareness (Lundberg, Olafsson, & Wall, 1980; Mann, 1984; Bryant & Bradley, 1985; Wagner & Torgeson, 1987). The significance of rhyming as a causal variable has yet to be demonstrated through more stringent criteria, i.e., the suggested influence of rhyming remains correlational (Maclean, Bryant, & Bradley, 1987). It could be that the production of nursery rhymes is an associate of as yet unmeasured aspects of early phonological sensitivity.

A subtle reciprocal interaction between variables seems likely (Stanovich, 1986). If certain cognitive abilities develop as a consequence of the growing reading skills of the child, it may not only be the underlying cognitive functions which dictate the course of reading development, but the language experiences associated with the processes of learning to

read. Implications are that learners not only learn to read by reading but that many apparently underlying competencies also develop through the reading.

The development of short term auditory memory span may be largely paced by the developmental of reading itself, as it has not been possible to distinguish poor readers or dyslexics from equivalent younger readers on measures of memory span (Ellis, 1990). As auditory memory span has often been regarded as one of the identifiers of specific learning difficulties (Naidoo, 1972; Miles, 1983; Thomson, 1984), it now seems that the measure may simply mirror individulal stages of reading development. It should also be noted that the recital as number sequences commonly used for assessing "auditory memory span" does not distinguish between the various phonological aspects of memory described above.

Alternative routes to word recognition

The "dual route" model has had a major influence on the way readers are thought to approach their task. There are said to be two major forms of access to the printed word: firstly, through the "direct" route and, secondly, through the "phonological" route. When a word is processed through the "direct" route, phonology is not involved. The word links directly with semantic processing, i.e., the meaning getting aspects of reading. When a word is processed through the alternative "phonological" route it has to be phonemically parsed (sounded out), in order to be accessed.

The model has been criticised, particularly with regard to literacy development. A basic separation between routes may be untenable (Bertelson, 1986). For example, grapho-phonic (letter-sound) knowledge is probably one of a cluster of cues used by the child. Evidence suggests that it is a particularly important form of cue for young readers, or for readers at an equivalently early stage of developments (Stanovich, 1980; Reitsma, 1984; Stuart-Hamilton, 1986).

A sophisticated empirical approach to route models of the reading process has been provided by Seymour (1986, 1987). Seymour describes the difficulties of each individual in his study over a series of assessment tasks. The term "strategic options" is put forward as a useful alternative to that of dyslexia. Seymour does not suggest that the empirical investigations of his research are suitable for use in assessment by applied practitioners. Nevertheless, some of his measures, such as those of reaction time, may eventually prove of value in the applied field (Seymor, 1986).

The identification of subtypes

Although Seymour (1986) could find no clear subtype groupings amongst his small number of subjects, despite identifying a variety of "impairments", larger surveys have found "clusterings" using statistical techniques of factor analysis. One study, involving the Aston Index, found two factors in groups of poor-reading and dyslexic children, an auditory and a verbal labelling factor (Hicks & Spurgeon, 1982). The utility of this distinction was unknown. The verbal labelling factor was simply renaming some of the subtest items initially regarded as representing visual channel difficulties.

More recently, three subgroups of "dyslexic" children have been identified on the basis of their test results on the British Ability Scales (BAS) (Elliott & Tyler, 1988; Tyler, 1990). The largest grouping was that referred to as having a "sequential processing deficit" where the children's performance was relatively weaker on the scales of Information Processing, Recall of Digits, Basic Arithmetic, Immediate Memory for Visual Recall, and Delayed Memory for Visual Recall. The latter two scales were assumed to assess skills associated with verbal mediation. An interesting facet was that the subscale of Recall of Digits stood out

as the weakest correlate of this cluster. The other two groupings were designated as the "holistic retrieval of information" and the "mixed" groups. The problem with the former group was that only two subscales, Word Definitions and Recall of Designs, stood out as problematic for the "holistic dyslexic" children. Whilst this research is of interest, it does not currently have direct implications for intervention (Van der Vissel, 1987).

The difficulty with those statistical techniques, which search for factors or clusters in a collection of subtests, is that the results depend on what has been included in the calculation, i.e., the variables which define the subtypes have to be there in the first place. Consequently, an analysis of the normative data of the Revised Wechsler Intelligence Scale for Children (WISC-R) has resulted in a replication of the general structure of the test (Lawson & Inglis, 1984, 1985).

Within the educational context, identification in terms of "subtypes" or "profiles" is only useful to the child if some form of curricular advantage follows. This is not currently the case. At present, therefore, the results of these statistical approaches are of more interest to the researcher than to the practitioner concerned with assessment and intervention of educational relevance.

Sequencing

Sequencing difficulties are associated with traditional notions of dyslexia. It is not clear, however, whether sequencing is a problem in the acquisition of literacy. Terms such as "auditory" or "visual sequential memory" abound in the literature. According to many researchers, both can be accounted for by the notion of immediate verbal memory span (Vellutino, 1979; Jorm, 1983). Even such an extreme phenomenon as mirror writing has been explained as simply due to inadequate learning of the directional skills of literacy (Vellutino, 1987).

There have been suggestions that children with specific learning difficulties have a more basic and central sequencing deficit (e.g., Singleton, 1988), and that such problems can be displayed motorically through irregular eye movements (Pavlidis, 1981). It would seem, however, that the most parsimonious explanation for the typical errors would be in terms of inadequate learning experience.

Implications for Educational Practice

The brief reviews of selected causal explanations have given a flavour of the kinds of cognitive areas of research involved. The following aspects have been considered: developmental models of the acquisition of reading and writing; different aspects of phonological awareness and memory; alternative routes to word recognition; attempts to identify particular subtypes of dyslexia; and the notion of sequencing as a causal factor of dyslexia. Much further research is required, particularly with regard to educational implications.

The various aspects of phonological processing provide the most promising avenues for development. Phonological difficulties can be identified through criterion-referenced assessments ranging from alliteration and rhyming to the use of complex phonological cues (Reason & Boote, 1986). Difficulties may also be observed informally through the analysis of miscues in reading, unusual spelling patterns, immature or deviant speech, difficulties in word recall or the introduction of rhyming and alliteration while enjoying the content of a story or rhyme.

Psychological theory related to word recognition does not currently match educational practice in any clear way. Indeed, different implications can be drawn from the same evidence depending on the educational preferences of the teacher. It is, for example, perfectly reasonable to assume that phonological awareness can be achieved through en-

joyable experience of nursery rhymes and stories. Alternatively, it can be argued that at least some children require carefully planned and repetitive practice of that "awareness".

A developmental view, limited to print recognition and reproduction, would imply a sequence of teaching aims roughly related to the age of the child. It would tend to ignore the broader linguistic aspects of literacy. At the earliest pre-school stage, oral and rhyming activities would be recommended. Prior to the onset of literacy, around the age of four, alliterative activities would be required in combination with other activities which emphasise the development of phonemic awareness. At age five, children would start to develop a "sight vocabulary" (the logographic stage), and would be taught to recognise letter sounds. At around the age of six children would begin to map independently their phonological representations. At this stage, spelling would be taught by a combination of verbal/phonological and handwriting/motoric approaches. At age seven and on wards, fully independent reading would be expected to begin.

Children failing at any particular stage, due to lack of appropriate intervention or possibly to organic reasons, would be regarded as having special educational needs. Further enrichment at the problematic stage would be required together with more systematic and repetitive practice. Those still not making progress, or making very slow progress, might then be regarded as having specific learning difficulties and needing even more carefully planned help. The severity of literacy difficulties would become defined as a function of the extent and quality of the additional tuition that has already been provided.

Teaching Methods

The promotion of the whole language and reading experience from the very start has been labelled the "top-down" approach. It contrasts with the controlled presentation of practice tasks, concerned with letter sounds and word recognition - the "bottom-up" approach - which assumes that complex skills need to be built up from their elements. It has been assumed that children with specific learning difficulties need a heavy dose of structured "multisensory" teaching, i.e., the "bottom-up" approach. It will be argued here that they too need a suitable mix of "both".

The different emphases of the "top-down" and "bottom-up" methods of instruction are summarised in Figure 1 below. "Top-down" starts from shared interest, gentle assistance and plenty of opportunity. Most children learn to recognise printed words by attending first to higher order knowledge about language and life in general. In contrast, the "bottom-up" way of teaching assumes that word recognition skills should be learnt first through structured cumulative methods of instruction.

The polarization of these two viewpoints has resulted in heated debate between those who wish to fan the flames of conflict. Teachers have responded with wary smiles; for them it has not been a question of "either/ or", but one of deciding how to combine them both. But can the two methods be combined to form one coherent approach if one starts from content, and word recognition follows, and the other from word recognition, and content follows?

Ways of blending the two have been considered in previous publications (Reason, 1990, Pumfrey & Reason,1991). The starting point is the child's understanding of the purposes of language, and plenty of opportunity to predict the way language is represented in the visual form as written text. Instructional implications lead to the many forms of reading and writing together (e.g., Holdaway, 1980; Arnold, 1984; McKenzie, 1986; Waterland, 1986).

The reader's previous experiences will determine whether the thoughts of the

Figure 1: Different emphases of instruction (From Pumfrey and Reason, 1991)

Top-down	Bottom-up
Instruction progresses from the general to the specific; children begin with stories and poems and word recognition skills follow.	Instruction progresses from letters and words to sentences and stories, from specifics to the general.
"Effort after meaning" is the source of literacy.	Emphasis is on graphophonic symbols and word recognition.
Learning requires shared interest, gentle assistance and plenty of opportunity.	Learning requires structured cumulative methods of instruction.
Poor readers may not use higher order knowledge about language to predict and guide lower level word recognition skills.	Poor readers cannot attend to content while they are laboriously deciphering print.

author can make sense to them. This means that the children's own "experiences of life" will be considered in the choice of books and other materials. Referring to teaching methods, it may not be surprising to find learners regarding reading primarily as a decoding process if deciphering of print has been the strongest focus at this stage.

Expectations of enjoyment and competence become a third key factor. Observations indicate that children, making slow progress in literacy, read much less than those, making good progress (Clay, 1979). Some researches have illustrated the emotional effects of learning difficulties. Compared with "average" or "good" readers, children considered "poor readers" had lower initial expectations of success, even with tasks that did not involve reading. The children gave up more easily and tended to attribute their success to luck and their failure to their own lack of competence.

These observations demonstrate the cumulative effects of early difficulties. Some children increasingly avoid reading and writing, becoming unmotivated and unwilling to learn. The resultant lack of opportunity to develop underlying competencies can, then, contribute to specific learning difficulties.

Learning to deal with the print aspects of literacy, is now the fourth essential element. It is dependent on the other major areas of language described above. A few have considerable difficulties with this small, but vital area, and do require carefully planned and extensive extra help. For them too, "top-down" approaches provide the continued foundations for additional "bottom-up" instruction as described, for example, by Reason and Boote (1986).

In assessing the needs of the individual, and the combination of "top-down" and "bottom-up" approaches required, previous opportunities to learn become the focus. Questions to be asked relate to early learning experiences and teaching methods, to parental involvement, to the child's expectations of enjoyment and competence, and to the quality and quantity of additional assistance that has been offered.

Discussion

The purpose of this paper has been to examine links between psychological research and educational practice. Four aspects of specific learning difficulties have been considered: discrepancy definitions, estimates of incidence, some causal explanations and their relevance to teaching methods. Views will vary according to the particular interests of the researchers or practitioners involved. The present paper has been written from the perspective of an educational practitioner working within the British context, and reference has also been made to education in the USA. The cognitive psychological research reviewed has been international.

The paucity of information, concerning the management of specific learning difficulties or disabilities in developing nations, leads one to wonder whether these kinds of difficulties are a western notion. According to Bruillette (1992), 26 out of the 152 nations involved reported that they made some form of additional provision for students with spe-

cific learning difficulties or disabilities. Sixty per cent of the 20 most advanced nations (as measured by under-five mortality rates) provided specialist services to those with specific learning difficulties, while none of the least developed nations reported such services. Whether a western notion or not, the distress caused by persistent difficulties with the print aspects of literacy must be recognised. Education in mainstream schools relies on written communication. One cannot lead a full individual or social life without adequate competence in reading and writing. Those with difficulties need sufficient and appropriate additional help.

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Assessment of Learning Potential in Children with Cerebral Palsy

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Abstract: *This article concentrates on a research project on the learning potential of cerebral palsied children. Learning potential is measured by means of a computerized version of the "Towers of Hanoi." The ultimate purpose of the research into this test concerns the benefits of a test on which to base a prognosis of the functional development of CP children. In the present study, two experimental groups (a group of hemiplegic (N=10) and a group of diplegic children (N=9), and a control group of physically disabled non-CP children (N=9) were tested. The two experimental groups of CP children obtained lower scores in the test than the control group. Furthermore, it was more difficult for the diplegic children to complete the test than for the hemiplegic children. However, it should be taken into consideration that a large number of the children were not able to complete the test. There were no significant differences between the hemiplegic children and the control group children.*

Introduction

Within the framework of a longitudinal research study into the perceptual and motor development of children with cerebral palsy, aged 4 to 16 years, the suitability of a test for measuring learning potential was investigated. The aim of the research was to relate the scores on this test to the motor impairments of cerebral palsied (CP) children and, in this way, to measure the effect of the neurological damage on learning potential. The ultimate purpose was to ascertain whether the result of this test would allow for a functional prognosis of the psychomotor development of CP children. This is clinically relevant, because this kind of information could allow predictions about the extent to which children with CP can learn from the therapies offered to them. The neurological diagnosis itself does not imply a functional prognosis.

The research on learning potential has its origin in criticisms of traditional intelligence tests. The rationale behind the use of IQ tests for measuring intelligence is that these tests measure knowledge and skills acquired during development, that the ability to acquire knowledge and skills varies from person to person, and that the acquired knowledge is a good indication of intelligence. An essential point of criticism with respect to this view is that not everyone has had an equal opportunity to acquire the knowledge and skills necessary to do well in a testing situation. Therefore, in certain circumstances, traditional intelligence tests will represent an underestimation of the intelligence of an individual (i.e., of his intellectual potential). The IQ test merely reflects the end result of prior learning, rather than learning potential or learning ability (Resing, 1990, p. 187). By means of a learning test, we attempted to measure not only actual cognitive development, which is, in general, what IQ tests do

(Guthke, 1982), but also to obtain insight into the "zone of subsequent development" (Vygotsky, 1964). The child's ability to use offered help is investigated. This provides the possibility of making predictions about future learning (Hamers & Ruijssenaars, 1984). Learning potential is defined as "the extent to which or the efficiency with which an individual is able to profit from instruction" (Resing, 1990, p. 23).

Traditional intelligence tests (e.g., the WISCR) are generally considered to be of limited value for CP children (Cruickshank, Hallahan & Bice, 1976, Drillien & Drummond, 1977, Groot Zwaaftink, Ruijssenaars, Schelbergen, 1987, Leyendecker, 1978, Nielsen, 1971, Renier, 1982). One of the reasons for this is the fact that the test material is often difficult for CP children with a motor impairment to handle. An additional problem is, as stated by Ruijssenaars and Hamers (1986), that the poor scores on test profiles can equally well be interpreted as either cause ("the learning problems are comprehensive in view of the low capacity of the child"; p. 315) or symptom ("i.e., a poor subtest achievement is a symptom of an unsuccessful learning process"; p. 315). To be able to identify the learning problems of children with developmental disabilities, the learning process itself must be studied, not just the test results. Research which utilizes learning tests seems particularly appropriate for detecting qualitatively different learning processes, and thus, is especially useful for CP children. Two main factors that explain intelligence problems and perception disorders are motor impairment (and the related experiential deprivation), and the disintegrity of the central nervous system (and the related disorders of information processing systems). In development from infancy onwards, the damaged neurophysiological substrate forms an interdependent unity with the specific developmental psychological conditions. For this reason, the basic development in CP children is qualitatively different from the beginning (Leyendecker, 1978). Therefore, according to Groot Zwaaftink, Ruijssenaars, &Schelbergen (1987), it is important, for pragmatic reasons, to concentrate on the question of whether the inferior intellectual achievement or, alternatively, the qualitatively different intellectual achievement of neurologically disabled children is determined by a lacunar (c.q., different) capacity to handle new experience.

Preceeding the research project reported here, a pilot study was carried out (Vermeer, 1991). In that study, two experimental groups of CP children, namely, hemiplegic children (N=4) and diplegic children (N=4), and a control group of neurologically unimpaired, physically disabled children (N=4) were involved. The children were between seven and eleven years of age. That study showed that, with the help of the learning potential test, significant differences in the level of test results and the test (i. e., learning process) could be established. However, the number of subjects involved in that study was too small, and it also appeared that the test was too difficult for young children. Therefore, it was not possible to establish potential differences between the two experimental groups.

In the subsequent research study, a larger number of children of a higher age were involved. Just as in the pilot study, two experimental groups (a group of children with diplegia and a group with hemiplegia) and a control group of physically disabled non-CP children were included.

It was hypothesized that diplegic children would show poorer test results than hemiplegic children, and that the experimental group of CP children would not score as well as the control group of non-CP children.

The following argument supports this hypothesis: Diplegia is a more diffused impairment and is associated to a

greater extent with developmental disorders of the brain. Hemiplegia is a more localized impairment and thus offers better opportunity for functional plasticity (Carr, Shepherd, Gordon, Gentile, & Held, 1987).

Method

Subjects.

Three groups of subjects, ranging in age from 8 to 16 years were formed. The two experimental groups consisted of CP children with neurologically classified motor impairments, namely hemiplegia (N=10) and diplegia (N=9). The third group, the control group, was comprised of children with physical disorders without neurological cause, that is, children with muscular dystrophy and orthopedic impairments (N=9). The groups were standardized as far as possible with respect to age, sex (Table 1) and mental lag (Table 2). The mental lag, as compared to normal intelligence scores, was determined by means of the TODDLER SON, the WIPPSI and the WISC-R. The first measures performance skills, the latter two measure both performance and verbal skills. The data from these tests were already available, as the subjects had been tested as part of their rehabilitation treatment. Based on their intelligence scores, the children were divided into three intelligence groups: (1) children with learning difficulties, (2) slow learners, and (3) normally talented children (Table 2). The mean age of the groups did not differ significantly. This was not the case for the intelligence scores. Hemiplegic and diplegic children were comparable. The intelligence of the control group is significantly (p<0.01) higher than the IQ of the two experimental groups (Mann-Whitney test). The group of hemiplegic children and the control group were almost equally divided with respect to sex. In the group of diplegic children, there were more girls than boys.

Table 1. Age and sex of the subjects.

	N	Mean age (years)	SD age (months)	Sex m	Sex f
Hemiplegia	10	11.2	29.7	2	8
Diplegia	9	11.3	32.6	4	5
Control	9	12.6	30.4	2	7
Total	28			8	20

Table 2. IQ scores of the subjects.

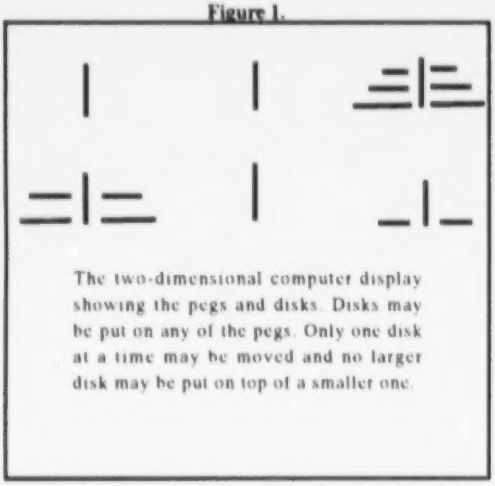
	N	50≤IQ<80	80≤IQ<90	90≤IQ<110
Hemiplegia	10	8	2	0
Diplegia	9	8	1	0
Control	9	3	3	3
Total	28	19	6	3

The test.

The well established diagnostic learning test "Towers of Hanoi" (TOH) (Guthke, 1980; Klahr & Robinson, 1981) was used in its computerized version (Groot Zwaaftink and Schelbergen, 1985, Groot Zwaaftink et al., 1987). The TOH-test measures the problem-solving capacity of the child and the extent to which the child benefits from help offered. The computerized version makes it possible to measure the child's learning capacity, while the execution of the test is almost unaffected by motor disfunction. The TOH-test makes it possible to estimate the coordination of skills in sequential reasoning, perceptual discrimination, quantitative structuring and short-term memory processes (Klahr, 1978).

The TOH-task consists of three pegs and three disks of different sizes, stacked to form a pyramid, which fit around the pegs (Figure 1). These are shown on a computer screen. The task is to transfer the pyramid of disks from one peg to another, previously designated peg. There are two rules: (1) only one disk at a time may be moved, and

Figure 1.



The two-dimensional computer display showing the pegs and disks. Disks may be put on any of the pegs. Only one disk at a time may be moved and no larger disk may be put on top of a smaller one.

(2) no larger disk may be put on top of a smaller one. Disks may be put on either of two pegs. Thus, transferring the disks from one peg to another, is bound by fixed conditions and rules, so that the initial and final situations, as well as the actions allowed, are clearly specified.

The test programme is written in BASIC. Changing the disk positions is done by pressing three large, coloured buttons. The test has proved to be fairly reliable and valid for both CP and non-CP children, 7.5 to 11 years of age (Groot Zwaaftink et al., 1987).

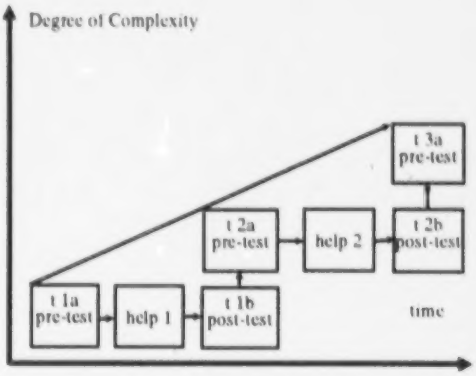
A pre-test-training phase -post-test model is used (Campbell and Stanley, 1966). The post-test is not identical to the pre-test, but analogous to it, with the same degree of complexity. Test 1, test 2 and test 3 increase in complexity (Figure 2). Whether there is a learning effect after the training phase (that is, help) is measured by means of the parallel post-test .

The TOH-test results in three different scores.

The Raw Score (RS):

- RS is the number of times the subject changed the disk position from one peg to another. The maximum number of steps in each pre- and post-test is fifteen. The optimal route consists of seven steps.

Figure 2. The pre-test, training-phase, post-test model



The Process-oriented scores (QD, QG)

The route covered by the subject is graphically recorded on existing forms by the tester. These forms have the possible "learning routes" already outlined. QD and QG scores are derived from these learning routes.

- QD is an extension of the raw score. It is the distance the subject has covered plus the number of steps still needed to reach the goal. QD is different from RS in that QD provides an indication of how far a subject who did not reach the goal in 15 steps has progressed. Thus, QD = RS, unless the subject has not reached the final goal. Then, QD = (RS + the number of steps still required). QD varies from 7 (optimal route) to 22 (still far away from the final goal after 15 steps).
- For the calculation of QG, a value is assigned to each step required to reach the final goal. The more closely and straightforwardly the subject has approached the final goal, the lower the score. The minimum score is 21 (7 steps = 6+5+4+3+2+1), the maximum is 105 (15 steps of 7 points). A QD score

between 85 and 105 means that the final goal has not been reached.

Results

Tests completed

Not all children were able to finish the whole series of tests. There was a drop-out rate of 44% of the subjects (N=28), with 18% of the subjects dropping out during the try-out test. The number of children in the diplegic group who did not complete the test was significantly higher ($p<0.05$) than in the hemiplegic group (Mann-Witney test for two independent samples). No significant differences were established between the other groups (Table 3).

Table 3. Number of subjects completing each test

	N	Try-out	Test 1	Test 2	Test 3
Hemiplegia	10	9	8	6	6
Diplegia	9	7	4	3	2
Control	9	7	6	7	5
Total	28	23(82%)	18(64%)	16(57%)	13(46%)

Spearman's Rank Correlation was used to detect the relationship between IQ and age, respectively, and the last test completed by the child. The correlations with IQ were not significant ($p>0.05$). This is probably because the majority of the children were in the lowest IQ-groups. As the IQ range was limited, the discriminative power of the correlation coefficient was low. Children who failed during the try-out were significantly [$t(26)=-2.26$; $p.<0.05$] younger (mean = 114 months) than the other children (mean = 146 months). In addition, the children who succeeded in completing test 3 were significantly [$t(26)=-3.05$; $p<0.05$] older (mean = 156 months) than the other children (mean = 125 months). A significant correlation ($p<0.01$) was found for the total sample between the number of the test completed (test 1, 2 or 3) and age. The correlations showed no significance for the separate groups (Table 4). This is probably because the three groups were relatively small.

Table 4. Spearman's Rank Correlations between the test completed and IQ and age, respectively.

	Hemiplegia	Diplegia	Control	Total(N=28)
IQ	-0.11	0.50	0.64	0.39
Age	0.70	0.46	0.59	0.53*
* = significant ($p<0.01$)				

QD and QG

Groot Zwaaftink and Schelbergen, (1985) and Vermeer (1991) drew conclusions about the learning effect from the post-test scores. It is, however, important to include the pre-test scores, for these scores also provide information about learning effects.

The differences in QD scores between the pre-test and the post-test are an indication of the learning effect. In the absolute differences, the result of the pre-test is not taken into consideration. Therefore, the relative difference with respect to the maximum possible difference is calculated [e.g., if the first score is 15 and the next one 11, the relative progress is 15-11/15-7 = 50% (7 is the minimum number of steps)].

In the case of a negative effect between the pre-test and the post-test, the score is 0. Test 3 does not have a post-test. Thus, for test 3, only the mean QD score can be computed: the score of test 3 is an end score.

Figure 3 shows the QD score (i.e., percentage of progress in number of steps) for test 1 and test 2. By means of a t-test, these percentages were compared. Test 2 shows a significant difference between the hemiplegic group and the diplegic group [$t(8)=2.36$; $p<0.05$] and also between the total CP group and the control group [$t(14)=2.24$; $p<0.05$]. No significant differences were found between the hemiplegic and the diplegic

Figure 3. QD-score (% of progress in number of steps in tests 1 and 2) for the two experimental groups and the control group.

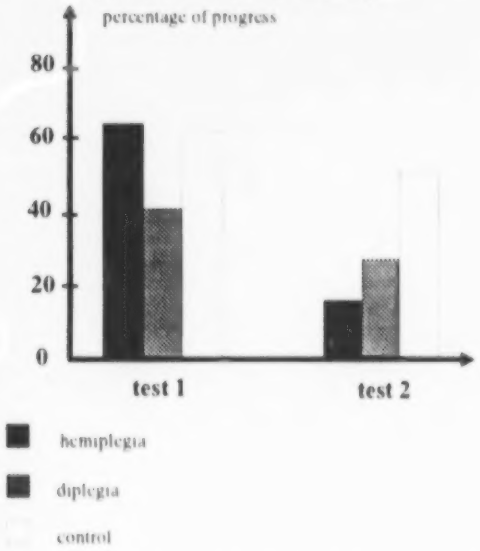
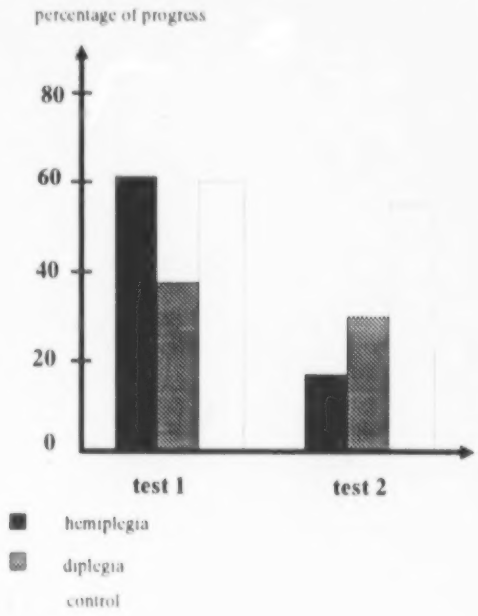


Figure 4. QG-score (% of progress in problem solving strategy in tests 1 and 2) for the two experimental groups and the control group.



groups, and the diplegic and the control groups. There were no significant differences between groups on test 3 scores.

The same procedure was followed for QG (Figure 4). No significant differences with respect to test 1 and 2 were found between the three groups. Test 3 showed a skewed distribution. The scores of the three groups were compared by means of a Chi-square test. No significant differences were found.

Helping steps

When the pre-test was not performed optimally (i. e., when more than seven steps were needed), help was offered. This help consisted of a maximum of six "helping tasks". Each subsequent helping task was one step closer to the final solution. As soon as a helping task was completed, the post-test followed. Figure 6 indicates the mean number of helping tasks required by each group.

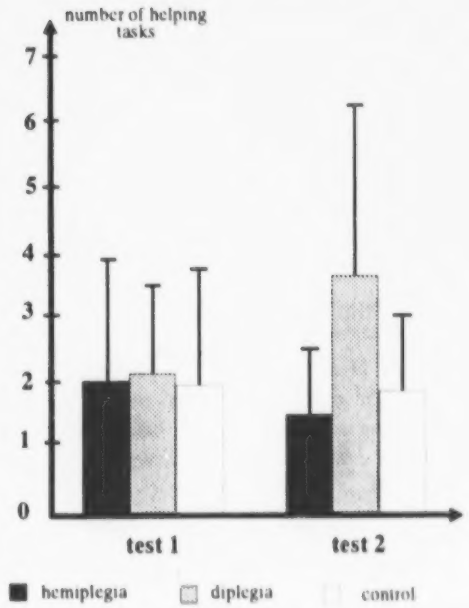
A t-test showed a significant difference in the number of helping tasks only during test 2, between the diplegic group on the one hand, and the hemiplegic group [$t(8)=3.48$; $p<0.01$] and the control group [$t(8)=2.81$; $p<0.05$], on the other.

By means of an analysis of variance, we investigated which of the variables: "motor impairment", "intelligence" or "age" had the greatest influence on the results. "Motor impairment" proved to have a significant influence only with respect to test 2 [$F(2.16)=8.154$; $p<0.01$]. The relatively high correlation between "age" and "test completed" (Table 4), is an indication that "age" had an important influence. This could not be tested by means of an analysis of variance, because the "test number" (i.e., 1, 2 or 3) is an ordinal variable.

Discussion

The control group showed greater progress in test 2 with respect to the QD score than either of the two experimental groups. The QG score did not show significant differences. This means that the control group showed a higher quantitative learning effect and that

Figure 5: The mean number and standard deviation of helping tasks per group



there were no differences with respect to the qualitative aspects (that is, strategies). The diplegic children needed significantly more helping tasks than both the hemiplegic group and the control group. In the interpretation of these results, it must be taken into consideration that the control group has a significantly higher IQ than the two experimental groups and that a significantly higher number of diplegic children did not complete the try-out test compared to hemiplegic children. Age proved to be a significant factor. Those children who completed the whole series of tests were significantly older than those who did not complete the test series. The children who did not complete the try-out test were significantly younger than the others. Furthermore, age also proved to have an important influence on the final outcome of the TOH-test.

The results supported the hypotheses. The control group had better results than either of the experimental groups, and the hemiplegic group scored higher than the diplegic group.

In general, it could be concluded that the TOH-test could be useful in distinguishing differences in learning potential among CP children. This conclusion, however, has to be treated with caution.

In the first place, the number of children in this study who did not complete the test was relatively large. This could be interpreted as an indication of both the learning potential of the children involved and the limited usefulness of the test, particularly for young children.

Further, it was observed that children who had experience with a computer, handled the computer test more easily than those who were using a computer for the first time. This might have affected the validity of the test.

Finally, the question which arises is to what extent the TOH-learning test can provide information on learning transfer capacity, [i.e., for ADL (activities of daily life), school, and leisure time activities]. In other words, to what extent can the CP child pursue guidelines of his own, based on the guidelines of the therapist, or plan and carry out (new) assignments with the help of instructions. This is a subject for further research.

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BOOKS REVIEW

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DESPITE MENTAL HANDICAP: LEARNING TO COPE WITH ADULT DAILY LIFE

Gunzburg, H. C. (Ed.)
Stratford-on-Avon: SEFA; 1992,
138 pages.

"The success of Wentwood, compared with progress in ordinary adult training centers, can be ascribed to three factors:

- strict adherence to an operational developmental policy,
- complete integration of work and home life for the purpose of guided social and personal growth,
- leadership and enthusiastic teamwork."

These are the closing words of the preface of Gunzburg's edited monograph. The monograph describes Wentwood Education which was established by Henrietta Reynolds in 1980. It discusses the results of a ten year experience of habilitation training with 63 mentally handicapped young adults. Initially, the purpose of the program was to offer prevocational courses to promote the trainees' confidence and ability to live an independent life within the community. That the program is a success is reflected by the fact that the majority of the students are living relatively independently in community hostels rather than in large group homes or with their families.

The book comprises seven sections. The first three detail the ingredients of the program: From ways of setting up targets based on careful analysis of previously achieved tasks, through opportunities for development and growth, to specific daily routines which indicate how the results were achieved. Sections IV through VII describe the program outcomes which result from the outlined approach.

Developmental orientation is a key concept in the program philosophy. It is explicitly conveyed that success is primarily the result of a developmental orientation more than it is a result of extensive financial resources or even professional assistance. The emphasis on development is, of course, a natural continuation of the "normalization" principle.

This developmental approach is translated into curriculum and everyday life. For example, one of the program's basic assumptions is that personal growth is a process which is closely related to a rigorous target setting. Teaching of skills is an essential, but not final aim, and must be pursued in the context of developing a greater degree of independence than practised thus far.

The use of assessment records is another unique feature of the program. The records are regularly examined and analyzed and provide information not only regarding the individual's progress, but also about what gets in the way of achieving the aims. With respect to assessment, the message is very clear: It "should only be dealing with those aspects where remedial intervention is intended" (p.15).

A common criticism of the normalization principle is that it is difficult to translate it into practice. When we talk about normalization, we are confined to the realm of abstract ideas rather

than comprehensively organised daily living experiences. I find the significant contribution of the monograph in providing supportive evidence for the claim that normalization can be practical not only when broken down to bites and pieces, but also when taken as a complex whole.

As such, the book is of interest not only to those providing care for individuals with mental handicaps, but to anyone committed to the needs of special populations in direct care, policy-making, and research. Direct care providers can learn a great deal about the significance of well thought out ideology which can be translated into daily details. Policy-makers can familiarize themselves with an effective program which is also well outlined, pragmatically oriented, and yet, has a strong ideological basis. The inclusion of assessment techniques as an essential ingredient of the program is certainly a very appealing factor to researchers interested in outcome research. To these three populations the monographclearly presents. The Wentwood program as a good learning model.

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Empowerment and Developmental Handicaps: Choices and Quality of Life

R. Brown, M. Bayer, P. Brown.
Chapman and Hall, 1992,
181 pages.

Some very promising directions for rehabilitation research and philosophy have been outlined in this summary of the three-year Intervention Phase of the full six-year study that focused on the present and future in rehabilitation programming. A thorough assessment of 240 clients in five representative rehabilitation agencies took place during first three years of the Phase I. Thus, an extensive baseline on measures of intellectual, social and vocational functioning of the Intervention, Non-Intervention and Want-Intervention groups was provided for the Phase II described in this volume. Overall, the results of the study reflect both dramatic shortcomings of the traditional service delivery system in Canada and effects of alternative models designed to overcome these deficits. The proposed dedemonstration models and field-tested recommendations show a considerable implication potential. There are clear indications that due to a great many objective reasons and traditional developments our rehabilitation agencies have gradually transformed into some sort of modified institutional settings instead of becoming an agent of active integration or reintegration of individuals with disabilities into the community. A traditional emphasis of vocational training seemingly failed to include certain prerequisites to its success. Namely, clients' leisure-time interests, desire to be in control of own life and need for a continuous emotional support gave way to agencies' inclinations "to keep them busy/quiet". However, as the authors poignantly state: "Life isn't all about satisfaction and happiness, it's also about struggling and dissatisfaction". A complex and bureaucratically evolved structure of rehabilitation agencies inevitably narrows close contacts and mutial agreement among staff, clients, parents or sponsors on what comprises the essence of the Quality of Life philosophy, let alone implementation aspect of it. The practice of training clients in the variety of skills, viewed as crucial for community adjustment by hierarchically structured service system appears to be in disadvantage when compared with training in skills considered to be important by clients themselves. Particularly so, when the training is carried out inside natural community environments. The opportunities for internaliz-

ing and consequent generalization of acquired skills are greatly increased under such "natural" conditions.

Another important area of concern for the rehabilitation community brought under scrutiny by the study is qualifications of traditional rehabilitation personnel and education of future professionals. A salient common theme of the Phase II of this study has been a demonstrated efficacy of outreach services provided by highly skilled teams as opposed to the traditional model of service delivery plagued by its rigid structure and rapid burnout of its ill-prepared staff. The authors suggest a comprehensive in-service training of the existing personnel including bonding and counselling skills which are necessary for consumer empowerment as well as for acquisition of basic knowledge of health processes and other characteristics of various community structures. Colleges and universities must be enabled to provide outreach which will ensure that rehabilitation education students from the outset gain exposure and experience inside existing community environments.

Judging from the Israeli perspective of group-oriented society taking pride in its communal values, a certain degree of optimism regarding feasibility and viability of such preparatory models appears to be warranted.

In terms of research design and analysis, this study's recommendations detail kinds of methodology, appropriate time frames and philosophy requirements for action-related, community-based quasi-experimental studies of similar type. Issues related to government and agencies's policies have been aroused in favor of cost-effective alternatives to the existing programmes, namely, either field intervention independent of large transitional agencies, or collaboration between community-based intervention and agencies themselves. This underlines not only the necessity of the involvement with a "natural" community with all attendant risks, but also represent a request for a fundamental change in the way agency services are planned, funded and carried out.

The Empowerment and Developmental Handicaps supplies plenty of valuable well-supported research and implication data on five intervention models applied in the representative cross-section of consumers with disabilities some of whom, despite their "self-selection" for the second stage of the study, were especially challenging cases in terms of their readiness for rehabilitation. This may well be the reason for somewhat overwhelming array of forms describing progress of study participants, such as Case Studies, Intervention Team Experiences, and Client Profiles. Although this volume's Reflections, Conclusions and Recommendations appear to be more systematically organized then those of the volume on the Assessment Phase. Some overlapping of various categories and redundancy of reflections and recommendations persisted into analyses of the Intervention Phase results. Nevertheless, Empowerment and Developmental Handicaps not only fills gap in Canadian-based studies on effectiveness of rehabilitation programs, but also shows a definite promise of becoming a top-desk reference for decision-makers, educators and frontline personnel concerned with improving quality of life for clients, their families and rehabilitation practitioners.

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AROUND THE WORLD of Special Education and Rehabilitation – IN BRIEF

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Latvia

Dr. Gershon M. Breslav, has kindly shared with us the results of an intensive psychological intervention program conducted with 16 seven- to nine-year old residents of one of the Latvian "general" boarding schools (*The Boarding School in a changing society: is it possible to decrease the damage?*, personal communications, September, 1993.)

The purpose of the intervention program was to minimize social deprivation, lack of emotional contacts and family-oriented experiences which represent characteristic sequelae of the typical general boarding school atmosphere "inherited" by Latvian educators along with other remnants of the collapsed Soviet regime.

Dr. Breslav depicts historical and ideological roots of the "boarding school phenomenon", its structure and evolution into either orphanages, institutions for children with disabilities, waste-baskets for the children of maladjusted, and usually impoverished families, or, once in a while, into green-houses for children of the thin privileged stratum as well as for the extraordinary talented youngsters.

Through detailed analysis of general boarding school functions, Dr. Breslav arrives at the two major derivatives of that educational system – aggressive maladjusted youngsters with satisfactory learning capabilities, and – passive maladjusted youngsters with learning disabilities.

While recognizing that some positive changes associated with the intervention program in both groups of youngsters could be predicted a priori due to the mere fact of inclusion in the program (that is, being a focus of the research team attention, enjoying a new kind of relationships had served as a partial compensation regardless of the program's goals and contents), Dr. Breslav proposes a wide platform for the gradual transformation of the existing boarding schools into usual schools fortified by the well-developed club infrastructure. He also emphasises that careful selection and training of the new schools' staff and administration, combined with an effective collaboration with professionals in child development and child psychology should comprise an initial phase of the transformation aimed at the decreasing detrimental impact of the old general boarding schools upon their residents.

Correspondence should be sent to Gershon M. Breslav, PhD, Imantas Teachers' College, 7th Imantas Line 1, LV 1083, Riga, Latvia.

Poland

The three-stage follow-up study recently conducted in Poland by Drs. Marta Bogdanowicz and Bozena Wszeborowska, *The development and school career of dyslexic children: A nine-year study (Personal communications, September, 1993)* addressed personal, emotional and perceptive-motor development of poor-reading students compared to their well-reading peers, in grades K-9.

Not surprisingly, reading and writing difficulties readily differentiated between the two groups on all school subjects and also evoked plenty of failure-avoidance behaviors (e.g., truancy, externalization of the loci of control, etc.), which increased proportionally with the grade level.

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Ironically, psychosomatic disturbances which are indicative of a neurotic personal development, have been present among well-reading group as well. Moreover, unlike the underachievers, psychosomatic symptoms in well-reading group had extended beyond school-related situations.

Another noteworthy observation of the researchers concerned the criteria for evaluating school conduct in the Polish school system: the underachievers are given poor conduct grades, so to speak, by default, regardless of their actual conduct.

Thus, aut Caesar aut nihil situation might, probably, account not only for neurotic personality traits of high-achieving students (e.g., feelings of anxiety, loneliness, and isolation), but also for their somewhat unrealistic expectations for the future compared to more realistic expectations and self-image of underachievers.

Correspondence should be sent to Marta Bogdanowics, PhD, University of Gdansk, Poland

Russia

An interesting experiment on "normalization" of life for students with disabilities has been undertaken in Russia by the Moscow Institute-Internate (MII) founded in 1990 especially for persons with physical disabilities (Professor Leon Sarkisian, personal communications, October, 1993).

Although a total number of the students studying there is relatively small (i.e., about 250) and disabilities present are confined to musculoskeletal impairments, the whole idea of such a breakthrough as well as the systematic approach to implementation is rather impressive.

One has to bear in mind that this educational initiative has been taking place in post-totalitarian Russia, where in 1991 out of approximately 15.6 million of full-time students of higher education there were only 1000 students with disabilities. Professor Sarkisian explains such a small number of students with disabilities by lack of physical access to the existing institutions, as well as to city transportation, and by non-augmented means of communication.

As a result of this , the MII students use the same buildings for living accommodations as well as for actual studying.

The MII certainly represents an achievement in filling existing gaps; its facilities are under extensive architectural renovations, its faculty and staff are systematically selected and trained to meet special needs of its student body; its educational activities and curriculum are designed to provide a stimulating and supportive atmosphere.

In October of this year a pioneering group of students (some of whom are from the neighboring Belorussia and Ukraine) was admitted into one of five MII's departments: Applied Mathematics, Law, Economics, Foreign Language, and Publishing. All of these students represented a "first generation" of either special or home-bound education for pupils with handicaps.

The MII takes pride in its educational philosophy which stresses a belief in every student's ability to live up to his or her potential and to become a productive member of the society.

Professor Sarkisian hopes that MII's initiative will generate an interest among members of international society of educators and attract many eminent researchers and educators to contribute their talents to further development of the Institute.

Inquiries should be forwarded to Professor L. Sarkisian, Rector, MII, 49 Losinoostrovskaya St., 107150, Moscow, Russia, Tel.: (095) 160-92-00; Fax: (095) 230-27-96.

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